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**The Information Appearing on this Page is NOT Part of the Standard**  
**ANSI/RVIA LV**  
**Standard for**  
**Low Voltage Systems**  
**in Conversion and Recreational Vehicles**

**Origin and Development of ANSI/RVIA LV**

Low voltage electrical standards for the conversion vehicle industry were non-existent prior to the development of this standard. The low voltage electrical requirements of the National Electrical Code-NEC-(ANSI/NFPA 70) found in Article 551 were used for conversion and recreational vehicles in the late 1980's and early 1990's. However, it was soon determined that the requirements of the NEC did not allow the conversion vehicle manufacturer and the original chassis manufacturer to design and interface low voltage systems that were totally compatible.

To address the low voltage systems in conversion vehicles, representatives of the automotive companies, the conversion vehicle industry, state enforcement administrators and other interested parties reviewed all known low voltage standards and developed the first low voltage electrical standard for conversion vehicles. The first edition was published as a 1992 edition.

The 1995 edition contained several minor changes and classifications that further enhance electrical safety and design.

The 1998 edition was a one page addendum that was a reaffirmation of the 1995 edition with four minor changes, distributed in a one sheet addendum.

The 2000 edition was revised to include recreational vehicles and also contains several minor changes and classifications that further enhance electrical safety and design.

The 2005 edition contains several major changes, such as requiring listed conductors, and many other minor changes that further enhance electrical safety and design.

The 2008 edition contains several major changes such as exempting braking and exterior lighting circuits from conductor listing requirements. Also revised light fixture requirements to address when in close contact with combustible material. Several other minor changes are also included.

The 2011 edition contains several major changes such as removing "solid wire" types from Table 1 an also revising light fixture requirements that are in close contact with materials having a flamespread index of 26 or more. Several other minor changes are also included.

The 2014 edition contains several major changes such as the actual ANSI designation from "12V" to "LV" in order to match the title of Low Voltage (LV) Systems. In addition, conductor routing of 12V and 120V in parallel now will be allowed and a new section has been added to address light fixture criteria when installed above a mattress. Several other minor changes have been made relating to the revision of the base RV definition and moving RV entity definitions to Appendix 3.

**Statement on Development Procedures**

This standard was developed under the published procedures of the American National Standards Institute, Inc. utilizing the canvass method for developing evidence of a consensus. While these procedures assure the highest degree of care, neither the Recreation Vehicle Industry Association, its members, nor those participating in its activities accepts any liability resulting from compliance or non-compliance with the provisions herein, for any restrictions imposed on materials or processes, or for the completeness of the text.

All questions or requests for information on obtaining formal interpretations, proposing amendments and appeals on matter relating to the contents of this document should be directed to the Vice President, Standards and Education, RVIA, PO Box 2999, Reston, VA 20195-2999.

## **Chapter 1 General**

### **1-1 Introduction**

NOTICE: An asterisk(\*) following the number designation of the paragraph indicating that explanatory material on the paragraph can be found in the Appendix 1, 2 and 3.

**1-1.1 Need for Standard.** Individuals involved with the manufacture of recreational vehicles, the modification of motor vehicles into conversion vehicles, chassis manufacturers and others associated with safety and inspections have been aware of the need for uniform technical standards. It was also recognized that with the variety of recreational and conversion vehicles being produced, the recreational and conversion vehicle manufacturer and original equipment manufacturer may not be designing low voltage systems that were totally compatible. It was with these factors in mind that this standard has been developed.

**1-1.2 Basis for Standards.** Much of the material in this standard has been taken from, or is based on recognized standards for low-voltage systems. Documents used are listed in Chapter 9.

**1-1.3 Scope.** This standard covers the installation of low voltage electrical systems and devices within recreational and conversion vehicles. In the absence of specific instructions from the OEM, this standard also covers any additions, deletions, or modifications to any part of the original equipment chassis manufacturer's electrical system.