SMPTE STANDARD

Ruggedized Fiber-Optic Connectors for HDTV and UHDTV SDI

Table of Contents

Approved
January 6, 2017

Foreword

SMPTE (the Society of Motion Picture and Television Engineers) is an internationally recognized standards developing organization. Headquartered and incorporated in the United States of America, SMPTE has members in over 80 countries on six continents. SMPTE's Engineering Documents, including Standards, Recommended Practices, and Engineering Guidelines, are prepared by SMPTE's Technology Committees. Participation in these Committees is open to all with a bona fide interest in their work. SMPTE cooperates closely with other standards-developing organizations, including ISO, IEC and ITU.

SMPTE Engineering Documents are drafted in accordance with the rules given in its Standards Operations Manual.

SMPTE ST 2091-1 was prepared by Technology Committee 32NF.

Intellectual Property

Attention is drawn to the possibility that implementing some of the elements of this document may be subject to patent rights. The holder of such patents is prepared to grant a license to its essential patent claims to an unrestricted number of applicants on a worldwide, non-discriminatory basis and on reasonable terms and conditions (RAND).

Introduction

This section is entirely informative and does not form an integral part of this Engineering Document.

This standard describes an optical connector system based on type LC or type MPO connectors which is targeting two areas of application, fixed installations and mobile use in the field. Therefore two performance classes are introduced. Applications with multiple mating cycles in a rather harsh environment require ruggedized connectivity solutions. The connectors specified in this document provide adequate features to cope with relevant requirements for harsh environments.

1 Scope

This document specifies ruggedized fiber-optic connectors based on standardized fiber-optic connectors, intended for use in HDTV and UHDTV broadcasting and video equipment where robust and reliable solutions are required.

The connectors are intended to be used for optical fiber systems such as defined in SMPTE ST 297-1, SMPTE ST 435-3 and SMPTE ST 2036-3.

This standard defines dimensional requirements related to reference planes of the underlying connector interfaces as standardized in IEC 61754-7 and IEC 61754-20. Furthermore structural and performance requirements are included considering optical and mechanical specifications.

2 Conformance Notation

Normative text is text that describes elements of the design that are indispensable or contains the conformance language keywords: "shall", "should", or "may". Informative text is text that is potentially helpful to the user, but not indispensable, and can be removed, changed, or added editorially without affecting interoperability. Informative text does not contain any conformance keywords.

All text in this document is, by default, normative, except: the Introduction, any section explicitly labeled as "Informative" or individual paragraphs that start with "Note:"

The keywords "shall" and "shall not" indicate requirements strictly to be followed in order to conform to the document and from which no deviation is permitted.

The keywords, "should" and "should not" indicate that, among several possibilities, one is recommended as particularly suitable, without mentioning or excluding others; or that a certain course of action is preferred but not necessarily required; or that (in the negative form) a certain possibility or course of action is deprecated but not prohibited.

The keywords "may" and "need not" indicate courses of action permissible within the limits of the document.

The keyword “reserved” indicates a provision that is not defined at this time, shall not be used, and may be defined in the future. The keyword “forbidden” indicates “reserved” and in addition indicates that the provision will never be defined in the future.

A conformant implementation according to this document is one that includes all mandatory provisions ("shall") and, if implemented, all recommended provisions ("should") as described. A conformant implementation need not implement optional provisions ("may") and need not implement them as described.

Unless otherwise specified, the order of precedence of the types of normative information in this document shall be as follows: Normative prose shall be the authoritative definition; Tables shall be next; followed by formal languages; then figures; and then any other language forms.

3 Normative References

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below.

SMPTE ST 292-2:2011, Dual 1.5 Gb/s Serial Digital Interface for Stereoscopic Image Transport