

SMPTE STANDARD

for Television —

Extended Content Control Information (ExCCI) Data Packet



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Forward

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 Part XIII of its Administrative practices.

SMPTE 401M was prepared by the Committee on Wrappers and Metadata Technology (W25).

Introduction

The extended content control information (ExCCI) packet is intended for use in professional applications in the production and distribution chains for content. It provides a signaling mechanism that allows devices used to prepare content for consumer release to apply conditional access or other controls to that content as it is prepared for release. Thus, the area of intended application of the ExCCI packet is the professional space, with a subset of its elements used at the point of release from the professional space into the consumer space by the device that prepares for release the content with which the ExCCI packet is associated.

This definition of the ExCCI packet is intended to support the initial applications of content control in North America and other regions that decide to use it. Annex A provides details with respect to one such application of Version 1. The intention of SMPTE is to develop revisions of this standard that are expected more completely to address a wide range of requirements for content control and that takes into account the worldwide delivery requirements of the systems developed by relevant organizations such as the DVB, TVA, and ARIB.

The ExCCI packet requires the addition of some form of identification for its practical implementation, depending upon the specific application. For example, the ExCCI packet may serve as the value in a KLV construct when associated with an appropriate key and length as defined in SMPTE 336M, or it may serve as the value inside an ANC packet as defined in SMPTE 291M. (The key assigned to the ExCCI packet is <06 0E 2B 34 01 01 01 06 02 07 02 00 00 00 00> in SMPTE RP 210 V6 and later versions.) Other methods of transport of the ExCCI packet are possible, and the data carried within a version 1 ExCCI packet also could be delivered by other methods — for example, those in RP 207.

1 Scope

This document defines content protection and content management (CPCM) information in the form of an extended content control information (ExCCI) data packet, including the packet's syntax, semantics, and structure. The packet is intended to convey redistribution control information for use as content is exported into the consumer space. Not all consumer distribution channels are expected to utilize all of the ExCCI information. (See annex B.)

2 Structure, carriage, and definition of the ExCCI packet

The ExCCI Packet comprises a minimum of 8 bytes, divided functionally into two fields of 4 bytes each, and followed by up to 225 additional bytes. The maximum size of an ExCCI packet carrying all optional bytes is 233 bytes.

The information contained in ExCCI packets shall be passed unaltered to the point of consumption and use of the ExCCI data, except where the specific purpose is to alter the ExCCI data.

The ExCCI packet structure is depicted in table 1. The two mandatory fields are designated introductory information and primary information. The optional field provides optional bytes for future applications.

The designations used in table 1 and the meanings of the bits and groups of bits identified by those designations are defined in sections 2.1 through 2.3. Bits marked as 'X' are reserved and shall carry the binary value 1 until further defined.

In this standard, hexadecimal numbers are denoted by a "0x" prefix: for example, the value 0x0e is equal to 14.

Operational requirements and characteristics with respect to the processing and transport of the ExCCI packet will be treated in other SMPTE documents.