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colour inside

Professional video storage products – Tape-less camera recorder using MXF file format – Encoding guidelines – Part 1: MXF Operational Patterns

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Technical Specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC TS 62871-1, which is a Technical Specification, has been prepared by technical area 6: Storage media, storage data structure, storage systems and equipment, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
100/2373/DTS	100/2446/RVC

Full information on the voting for the approval of this Technical Specification can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- transformed into an International Standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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INTRODUCTION

The professional camera recorder has evolved from a traditional tape-based system into a file-based system, taking advantage of recent advances in information technology. Instead of using conventional magnetic tape as the recording medium, video and audio streams can now be stored as files that can be read directly by a personal computer (PC).

Several file format specifications exist, and most broadcasters are using the Material eXchange Format (MXF) which has been standardized by the Society of Motion Picture and Television Engineers (SMPTE). As reported in IEC TR 62712:2011, the MXF file format has been adopted for various types of professional tape-less camera recorders. MXF is being used by many broadcast stations around the world. Since the MXF file format provides a multiplicity of functions and options in order to satisfy the needs of various applications in a range of situations, it is important to address interoperability issues between equipment. Therefore, it is essential for interoperability that there is an appropriate Technical Specification that specifies guidelines for MXF implementations and operational usage.

The IEC 62871 series gives encoding guidelines for professional tape-less camera recorders using the MXF file format to ensure interoperability.

Future parts will be proposed to specify implementation guidelines appropriate for specific codecs.

PROFESSIONAL VIDEO STORAGE PRODUCTS – TAPE-LESS CAMERA RECORDER USING MXF FILE FORMAT – ENCODING GUIDELINES –

Part 1: MXF Operational Patterns

1 Scope

This part of IEC 62871, which is a Technical Specification, gives guidelines for MXF Operational Patterns for professional tape-less camera recorders and also outlines the general parts of the MXF file format.

The guidelines are applicable to the creation of an MXF file in professional tape-less camera recorders. They are also applicable for content management software and to equipment that supports MXF files generated by professional tape-less camera recorders.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

SMPTE ST 377-1:2011, *Material Exchange Format (MXF) – File Format Specification*

SMPTE ST 378:2004, *For Television – Material Exchange Format (MXF) – Operational Pattern 1a (Single Item, Single Package)*

SMPTE ST 379-1:2009, *Material Exchange Format (MXF) – MXF Generic Container*

SMPTE ST 379-2:2010, *Material Exchange Format (MXF) – MXF Constrained Generic Container*

SMPTE ST 390:2011, *Material Exchange Format (MXF) – Specialized Operational Pattern "OP-Atom" (Simplified Representation of a Single Item)*