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Helical-scan digital video cassette recording format using 12,65 mm magnetic tape and incorporating MPEG-4 compression – Type D-16 format

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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HELICAL-SCAN DIGITAL VIDEO CASSETTE RECORDING FORMAT USING 12,65 mm MAGNETIC TAPE AND INCORPORATING MEPG-4 COMPRESSION – TYPE D-16 FORMAT (TA6)

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International Standard IEC 62141 has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment.

The text of this standard is based on the following documents:

CDV	Report on voting
100/925/CDV	100/1004/RVC

Full information on the voting for the approval of this standard 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 maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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

HELICAL-SCAN DIGITAL VIDEO CASSETTE RECORDING FORMAT USING 12,65 mm MAGNETIC TAPE AND INCORPORATING MEPG-4 COMPRESSION – TYPE D-16 FORMAT (TA6)

1 Scope

This International Standard specifies the track content, format, and recording method of the data blocks containing compressed video, AES3 audio data, and associated data which form the helical records on 12,65 mm tape in cassettes. This standard supports recording of source picture formats using 1920 × 1080 pixels with the 4:4:4 and 4:2:2 sampling structure specified in SMPTE 274M at the frame rate of 23,98 Hz, 24 Hz, 25 Hz and 29,97 Hz, and using 1280 × 720 pixels with the 4:2:2 sampling structure specified in SMPTE 296M at the frame rates of 50 Hz and 59,94 Hz (see note). This standard also supports recording of 12 channels of AES3 audio data and 3 lines of uncompressed blanking interval data. This standard includes packetizing and shuffling operations supporting picture compression using the DCT and DPCM encoding methods defined by ISO/IEC 14496-2 (MPEG-4 simple studio profile).

NOTE Early implementations of this standard might not comply to the frame rate of 59,94 Hz as specified in SMPTE 296M.

2 Normative references

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

IEC 61213:1993, *Analogue audio recording on video tape – Polarity of magnetization*

IEC 61237-1:1994, *Broadcast video tape recorders – Methods of measurement – Part 1: Mechanical measurements*

ISO/IEC 14496-2:2004, *Information technology – Coding of audio-visual objects – Part 2 : Visual*

ITU-R Recommendation BT.709:2002, *Parameter values for the HDTV standards for production and international programme exchange*

SMPTE 12M:1999, *Television – Audio and Film – Time and Control Code*

SMPTE 274M:2003, *Television – 1920 × 1080 Scanning and Analog and Parallel Digital Interfaces for Multiple Picture Rates*

SMPTE 276M:1995, *Transmission of AES-EBU Digital Audio Signals Over Coaxial Cable*

SMPTE 292M:1998, *Bit-Serial Digital Interface for High-Definition Television Systems*

SMPTE 296 M:2001, *Television – 1280 × 720 Progressive Image Sample Structure – Analog and Digital Representation and Analog Interface*

SMPTE 299M:1997, *Television – 24-Bit Digital Audio Format for HDTV Bit-Serial Interface*

SMPTE 372M:2002, *Television – Dual Link 292M Interface for 1920 x 1080 Picture Raster*

SMPTE RP 188:1999, *Transmission of Time Code and Control Code in the Ancillary Data Space of a Digital Television Data Stream*

AES3-1997, *Serial transmission format for two-channel linearly represented digital audio data*