

INTERNATIONAL STANDARD

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Helical-scan compressed digital video cassette system using 6,35 mm magnetic tape – Format D-7 –

Part 1: VTR specifications

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HELICAL-SCAN COMPRESSED DIGITAL VIDEO CASSETTE SYSTEM
USING 6,35 mm MAGNETIC TAPE – FORMAT D-7 –**

Part 1: VTR specifications

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International Standard IEC 62071-1 has been prepared by technical area 6: Higher data rate storage media, data structures and equipment of 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
100/900/CDV	100/984/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.

IEC 62071 consists of the following parts, under the general title *Helical-scan compressed digital video cassette system using 6,35 mm magnetic tape – Format D-7*:

Part 1: VTR specifications

Part 2: Compression format

Part 3: Data stream format

This part 1 describes the VTR specifications which are tape, magnetization, helical recording, modulation method and basic system data for video compressed data.

Part 2 describes the specifications for encoding process and data format for 525i and 625i systems.

Part 3 describes the specifications for transmission of DV-based compressed video and audio data stream over 270 Mb/s and 360 Mb/s serial digital interface.

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- withdrawn;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 COMPRESSED DIGITAL VIDEO CASSETTE SYSTEM USING 6,35 mm MAGNETIC TAPE – FORMAT D-7 –

Part 1: VTR specifications

1 Scope

This part of IEC 62071 specifies the content, format and recording method of the data blocks containing video, audio, and associated data which form the helical records on 6,35 mm tape contained in cassettes as specified in SMPTE 307M.

In addition, this standard specifies the content, format, and recording method for longitudinal cue and control tracks.

One video channel and two independent audio channels are recorded in the digital format for 25 Mb/s VTRs and one video channel and four independent audio channels for 50 Mb/s VTRs. Each of these channels is designed to be capable of independent editing.

The video channel records and reproduces a component television signal in the 525-line system with a frame frequency of 29,97 Hz (hereinafter referred to as the 525/60 system) and the 625-line system with a frame frequency of 25,00 Hz (hereinafter referred to as the 625/50 system).

Prior to recording, the digital signal is compressed to a DV-based 25 Mb/s bit stream with 4:1:1 sampling or a DV-based 50 Mb/s bit stream with 4:2:2 sampling.

The standard includes the process required to decode the DV-based 25 Mb/s bit stream and 50 Mb/s bit stream into output video, audio, and data.

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.

AES3:2003, *AES Recommended Practice for Digital Audio Engineering – Serial transmission format for two-channel linearly represented digital audio data*

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

SMPTE 259M: 1997, *Television – 10-Bit 4:2:2 Component and 4fsc NTSC Composite Digital Signals – Serial Digital Interface*