

INTERNATIONAL STANDARD

IEC 62071-1

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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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CONTENTS

FOREWORD.....	6
1 Scope.....	8
2 Normative references.....	8
3 Abbreviations and acronyms.....	8
4 Environment and test conditions.....	9
4.1 Environment.....	9
4.2 Reference tape.....	10
4.3 Calibration tapes.....	10
5 Tape.....	10
5.1 Base.....	10
5.2 Width.....	10
5.3 Width fluctuation.....	10
5.4 Reference edge straightness.....	10
5.5 Tape thickness.....	11
5.6 Transmissivity.....	11
5.7 Offset yield strength.....	11
5.8 Magnetic coating.....	11
5.9 Coating coercivity.....	11
6 Helical recordings.....	11
6.1 Tape speed.....	11
6.2 Sectors.....	11
6.3 Record locations and dimensions.....	11
6.4 Helical track record tolerance zones.....	12
6.5 Relative positions of recorded information.....	12
6.6 Gap azimuth.....	22
7 Programme track data.....	26
7.1 General.....	26
7.2 Insert and track information (ITI) sector.....	41
7.3 Audio sector.....	51
7.4 Video sector.....	56
7.5 Subcode sector.....	60
7.6 Edit gap.....	63
8 Audio processing.....	64
8.1 General.....	64
8.2 Encoding mode.....	64
8.3 Audio shuffling.....	65
8.4 Audio auxiliary data (AAUX).....	66
8.5 Error correction code addition.....	69
9 Video processing.....	71
9.1 General.....	71
9.2 Compressed macro block and data-sync block.....	71
9.3 Video auxiliary data (VAUX).....	72
9.4 Error correction code addition.....	76

10	Subcode processing	77
10.1	General	77
10.2	Subcode data	77
10.3	Error correction code addition	80
11	Longitudinal tracks.....	81
11.1	Control track.....	81
11.2	Cue track.....	82
Annex A (normative) Tape tension.....		83
Annex B (normative) Track pattern during insert editing.....		84
Annex C (normative) Cross-tape track measurement technique		85
Annex D (normative) Frequency characteristics of F_0 track		89
Annex E (informative) Relationship between tape length and recording time		90
Annex F (informative) Block diagram of D-7 recorder.....		91
Bibliography.....		92
Figure 1 – Locations and dimensions of recorded tracks of 25 Mb/s format.....		13
Figure 2 – Locations and dimensions of recorded tracks of 50 Mb/s format.....		14
Figure 3 – Location of cue and control track record.....		15
Figure 4 – Locations and dimensions of tolerance zones of helical track record of 25 Mb/s format.....		20
Figure 5 – Locations and dimensions of tolerance zones of helical track record of 50 Mb/s format.....		21
Figure 6 – A possible scanner configuration and tape wrap of 25 Mb/s format.....		24
Figure 7 – A possible scanner configuration and tape wrap of 50 Mb/s format.....		25
Figure 8 – Possible recording system configuration with digital interface port (informative)		27
Figure 9 – Sector arrangement on helical track.....		27
Figure 10 – Frames and tracks (525/60 system of 25 Mb/s format)		28
Figure 11 – Frames and tracks (625/50 system of 25 Mb/s format)		28
Figure 12 – A frame and tracks (525/60 system of 50 Mb/s format).....		29
Figure 13 – A frame and tracks (625/50 system of 50 Mb/s format).....		29
Figure 14 – Frequency characteristics of tracks		34
Figure 15 – Modulation for audio sector.....		36
Figure 16 – Modulation for video sector		37
Figure 17 – Modulation for subcode sector		38
Figure 18 – Possible block diagram for signal processing		39
Figure 19 – Bit stream before interleaved NRZI modulation.....		40
Figure 20 – Pre-coding.....		40
Figure 21 – Structure of ITI sector		42
Figure 22 – Structure of sync block of TIA		48
Figure 23 – Structure of audio sector.....		51
Figure 24 – Structure of sync blocks in audio sector		52
Figure 25 – Structure of video sector		57

Figure 26 – Structure of sync blocks in video sector	58
Figure 27 – Structure of subcode sector	61
Figure 28 – Structure of sync blocks in subcode sector.....	62
Figure 29 – Sample to audio data bytes conversion	65
Figure 30 – Arrangement of AAUX packs in audio auxiliary data	66
Figure 31 – Data and inner parity of a data sync block	70
Figure 32 – Data and outer parity of a data sync block for audio sector	71
Figure 33 – Relation between the compressed macro block number and the data-sync block	72
Figure 34 – Arrangement.....	73
Figure 35 – Data and outer parity of a data sync block for video sector	77
Figure 36 – Arrangement of subcode data	78
Figure 37 – Bit assignment for subcode data and parity	81
Figure 38 – Recorded control code waveform timing (525/60 system)	82
Figure 39 – Recorded control code waveform timing (625/50 system)	82
Figure B.1 – Typical track pattern during insert editing for 25 Mb/s format	84
Figure B.2 – Typical track pattern during insert editing for 50 Mb/s format	85
Figure C.1 – Correction factors (actual tape speed, tension)	87
Figure C.2 – Track location error plot for 25 Mb/s format (example)	88
Figure C.3 – Track location error plot for 50 Mb/s format (example)	88
Figure C.4 – Cross-tape measurement technique	88
Figure D.1 – Frequency characteristics of F ₀ track	89
Figure F.1 – Block diagram of D-7 recorder	91
Table 1 – Record locations and dimensions (525/60 system of 25 Mb/s format)	16
Table 2 – Record locations and dimensions (625/50 system of 25 Mb/s format)	17
Table 3 – Record locations and dimensions (525/60 system of 50 Mb/s format)	18
Table 4 – Record locations and dimensions (625/50 system of 50 Mb/s format)	19
Table 5 – Parameters for a possible scanner design of 25 Mb/s format.....	23
Table 6 – Parameters for a possible scanner design of 50 Mb/s format.....	23
Table 7 – Frames and servo information (525/60 system of 25 Mb/s format)	30
Table 8 – Frames and servo information (625/50 system of 25 Mb/s format)	31
Table 9 – A frame and servo information (525/60 system of 50 Mb/s format).....	32
Table 10 – A frame and servo information (625/50 system of 50 Mb/s format).....	33
Table 11 – Bit stream of ITI preamble for servo information F ₀	42
Table 12 – Bit stream of ITI preamble for servo information F ₁	43
Table 13 – Bit stream of ITI preamble for servo information F ₂	44
Table 14 – Bit stream of SSA for servo information F ₀	45
Table 15 – Bit stream of SSA for servo information F ₁	46
Table 16 – Bit stream of SSA for servo information F ₂	47
Table 17 – Application ID of track information.....	48
Table 18 – Pilot frame	48
Table 19 – Bit stream of TIA for servo information F ₀	49
Table 20 – Bit stream of TIA for servo information F ₁	49

Table 21 – Bit stream of TIA for servo information F_2	49
Table 22 – Bit stream of ITI post-amble for servo information F_0	50
Table 23 – Bit stream of ITI post-amble for servo information F_1	50
Table 24 – Bit stream of ITI post-amble for servo information F_2	50
Table 25 – ID0 in audio sector	53
Table 26 – Audio application ID	53
Table 27 – Track pair number for 25 Mb/s format	53
Table 28 – Track pair number for 50 Mb/s format	54
Table 29 – Bit assignment of ID codewords	55
Table 30 – ID data in video sector	59
Table 31 – Video application ID	60
Table 32 – ID data in subcode sector	62
Table 33 – Subcode application ID	63
Table 34 – AAUX data	67
Table 35 – Mapping of AAUX source pack	67
Table 36 – Mapping of AAUX source control pack	68
Table 37 – VAUX data	74
Table 38 – Mapping of VAUX source pack	74
Table 39 – Mapping of VAUX source control pack	75
Table 40 – Mapping of subcode pack	78
Table 41 – Mapping of time code pack	79
Table 42 – Mapping of a binary group pack	80
Table C.1 – Nomenclature and calculation of track location error	87
Table E.1 – Tape length and recording time	90

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 1: VTR specifications

FOREWORD

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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 159M: 1997, *Television – 10-Bit 4:2:2 Component and 4fsc NTSC Composite Digital Signals – Serial Digital Interface*