



SLOVENSKI STANDARD

SIST EN 61327:1999

01-april-1999

Helical-scan digital composite video cassette recording system using 12,65 mm (0,5 in) magnetic tape - Format D-3 (IEC 61327:1995)

Helical-scan digital composite video cassette recording system using 12,65 mm (0,5 in) magnetic tape - Format D-3

Videokassettenystem mit Schrägspuraufzeichnung digitaler Composite-Signale auf Magnetband 12,65 mm (0,5 in) - D3-Format

Système de magnétoscope numérique à chrominance composite à cassette à balayage hélicoïdal utilisant la bande magnétique de 12,65 mm (0,5 in) - Format D-3

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Ta slovenski standard je istoveten z: EN 61327:1995

ICS:

33.160.40 Video sistemi Video systems

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Descriptors: Recording apparatus, digital recording, magnetoscopes, magnetic tapes, cassettes for magnetic tape, characteristics, mechanical properties, dimensions, interfaces, signal processing, video signals, acoustic signals, recording track

English version

**Helical-scan digital composite video cassette recording system
using 12,65 mm (0,5 in) magnetic tape
Format D-3
(IEC 1327:1995)**

Système de magnéscope numérique à
chrominance composite à cassette à
balayage hélicoïdal utilisant la bande
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Format D-3
(CEI 1327:1995)

Videokassettensystem mit
Schrägschraufzeichnung digitaler
Composite-Signale auf Magnetband
12,65 mm (0,5 in)
D3-Format
(IEC 1327:1995)

This European Standard was approved by CENELEC on 1995-09-20. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 60B/255/DIS, future edition 1 of IEC 1327, prepared by SC 60B, Video recording, of IEC TC 60, Recording, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61327 on 1995-09-20.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1996-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1996-07-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annexes A, B and ZA are normative and annex C is informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 1327:1995 was approved by CENELEC as a European Standard without any modification.

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Annex ZA (normative)

**Normative references to international publications
with their corresponding European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 461	1986	Time and control code for video tape recorders	HD 507 S1	1988
IEC 735	1991	Measuring methods for video tape properties	EN 60735	1991
IEC 958	1989	Digital audio interface	EN 60958	1990
IEC 1179	1993	Helical-scan digital composite video cassette recording system using 19 mm magnetic tape, format D2 (NTSC, PAL, PAL-M)	EN 61179	1993
ITU-R Report 624-4	1990	Characteristics of television systems (Vol. X1-1)	-	-
ITU-R Recommendation 647-1	1990	A digital audio interface for broadcasting studios (Fascicle X-1)	-	-
ITU-T Recommendation J.17	1972	Pre-emphasis used on sound-programme circuits (Fascicle III.4)	-	-

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**Système de magnétoscope numérique
à chrominance composite à cassette
à balayage hélicoïdal utilisant la bande
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cassette recording system using
12,65 mm (0,5 in) magnetic tape –
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International Electrotechnical Commission
Международная Электротехническая Комиссия

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CONTENTS

	Page
FOREWORD	11
INTRODUCTION	13
Clause	
1 General	15
1.1 Scope and object	15
1.2 Normative references	15
1.3 Definitions, symbols and abbreviations	17
2 Technical data	17
2.1 Environment and test conditions	17
2.2 Reference tape	19
2.3 Calibration tape	19
2.3.1 Record locations and dimensions	19
2.3.2 Calibration signals	19
2.3.3 Purchase	19
3 Video tape cassette	21
3.1 Mechanical parameters	21
3.1.1 Cassette dimensions	21
3.1.2 Identification of cassettes	21
3.1.3 Tape length, thickness and play times	21
3.1.4 Coating face	23
3.1.5 Datum planes	23
3.1.6 Window and labels	23
3.1.7 Identification holes	23
3.1.8 Leader/trailer tape	25
3.1.9 Reels	27
3.1.10 Lid	29
3.2 Video tape specification	29
3.2.1 Base	29
3.2.2 Width	29
3.2.3 Width fluctuation	31
3.2.4 Reference edge straightness	31
3.2.5 Tape thickness	31
3.2.6 Transmissivity	31
3.2.7 Offset yield strength	31
3.2.8 Magnetic coating	31
3.2.9 Coating coercivity	31
3.2.10 Particle orientation	31
4 Helical recordings	33
4.1 Tape speed	33

Clause	Page
4.2 Erase head and record location and dimensions	33
4.2.1 Erase head	33
4.2.2 Record location and dimensions	33
4.2.3 Reference edge	33
4.2.4 Track pitch	33
4.2.5 Flying erase heads	33
4.3 Helical track record tolerance zones	33
4.4 Relative positions of recorded signals	35
4.4.1 Relative positions of the longitudinal tracks	35
4.4.2 Helical/control track relationship	35
4.4.3 Programme area reference point	35
4.5 Gap azimuth	35
4.5.1 Cue track, control track, time and control code track	35
4.5.2 Helical track	35
4.6 Transport and scanner	37
5 Programme track data arrangement	37
5.1 Introduction	37
5.2 Labelling convention	37
5.3 Sector details	39
5.3.1 Sync block	39
5.3.2 Sync pattern	39
5.3.3 Identification pattern	39
5.3.4 Data field	41
5.3.5 Sector preamble	45
5.3.6 Sector postamble	47
5.4 Edit gaps	47
5.5 Channel coding	47
5.5.1 Coding rules	47
5.5.2 Data rate and wavelength	49
5.6 Magnetization	51
5.6.1 Polarity	51
5.6.2 Recorded equalization	51
5.6.3 Record level	51
6 Video interface	51
6.1 Encoding parameters	51
6.2 Parallel digital signal interface	51
7 Audio interface	51
7.1 Encoding parameters	51
7.1.1 Sampling	51
7.1.2 Reference level	53
7.2 Digital signal interface	53

Clause	Page
8 Video processing	53
8.1 Recorded and non-recorded data	53
8.1.1 Recorded samples of digital active line and lines of the television frame	53
8.1.2 Non-recorded data	55
8.1.3 Source pre-coding	55
8.2 Channel distribution of samples	55
8.3 Shuffling	55
8.3.1 Introduction	55
8.3.2 Algebraic definition	57
8.4 Field data array	59
8.5 Outer error protection	61
8.6 Order of transmission to inner coding	61
9 Audio processing	63
9.1 Introduction	63
9.2 Source coding	63
9.3 Source processing	65
9.3.1 Introduction	65
9.3.2 Relative audio-video timing	65
9.3.3 Audio data in fields	65
9.3.4 Intra-field shuffling	65
9.3.5 Block shuffling	67
9.3.6 Audio data word processing	69
9.4 Auxiliary words	71
9.4.1 Channel use (CHAN)	71
9.4.2 Pre-emphasis (PREF)	73
9.4.3 Audio data word mode (LNGH)	75
9.4.4 Block sync location (S MARK)	75
9.4.5 Field number count (FNCT) for 525/60 system	77
9.4.6 Edit flag (EFLG)	77
9.5 Outer error protection	79
9.6 Inner protection	79
9.7 Order of transmission to inner coding	79
9.8 Channel code	79
9.9 Allocation of audio sectors	81
10 Longitudinal tracks	81
10.1 Relative timing	81
10.1.1 Time and control code input	81
10.1.2 Time and control code information	81
10.1.3 Cue information	81
10.1.4 Control track servo pulse	81

Clause	Page
10.2 Control track.....	83
10.2.1 Method of recording	83
10.2.2 Servo reference pulse	83
10.2.3 Flux polarity	83
10.2.4 Flux level	83
10.2.5 Pulse width	83
10.2.6 Servo reference pulse timing	83
10.2.7 Colour frame pulse	83
10.2.8 Video frame pulse	83
10.3 Cue record	85
10.3.1 Method of recording	85
10.3.2 Flux level	85
10.4 Time and control code record	85
10.4.1 Method of recording	85
10.4.2 Flux level	85
10.4.3 Input signal	85
Figures	87
Annexes	
A Cross-tape track measurement technique.....	257
B Track pattern during insert editing	267
C Bibliography	269

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HELICAL-SCAN DIGITAL COMPOSITE VIDEO CASSETTE
 RECORDING SYSTEM USING 12,65 mm (0,5 in)
 MAGNETIC TAPE – FORMAT D-3**

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international cooperation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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- 3) They have the form of recommendations for international use published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
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- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

International Standard IEC 1327 has been prepared by sub-committee 60B: Video recording, of IEC technical committee 60: Recording.

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

DIS	Report on voting
60B/255/DIS	60B/272/RVD

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

Annexes A and B form an integral part of this standard.

Annex C is for information only.

INTRODUCTION

One video channel and four independent audio channels are recorded in digital form. Each of these channels is designed to be capable of independent editing. The video channel records and reproduces a composite television signal in the 525-line system with a frame frequency of 29,97 Hz and 625-line system with a frame frequency of 25,00 Hz.

The video signal may be input and output in either analogue or digital form. The audio signals may also be input and output in either analogue or digital form. In addition, a cue audio signal is recorded in analogue form.

Figures 1 and 2 provide block diagrams of the processes involved in the recorder.

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HELICAL-SCAN DIGITAL COMPOSITE VIDEO CASSETTE RECORDING SYSTEM USING 12,65 mm (0,5 in) MAGNETIC TAPE – FORMAT D-3

1 General

1.1 *Scope and object*

This International Standard defines the electrical and mechanical characteristics of equipment which permits the interchangeability of 12,65 mm cassettes containing digitally recorded composite video programmes.

This standard specifies the content, format and recording method of the data blocks forming the helical records on the tape containing video, audio and associated data using the 12,65 mm (0,5 in) type D-3 cassettes. In addition, this standard specifies the content, format and recording method of the longitudinal record containing tracking information for the scanning head associated with the helical records, as well as the longitudinal cue audio and time and control code tracks. The requirements given relate to 525-line composite television signals with a frame frequency of 29,97 Hz nominal (hereinafter referred to as "525/60 system") and to 625-line composite television signals with a frame frequency of 25,00 Hz (hereinafter referred to as "625/50 system").

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1.2 *Normative references*

[SIST EN 61327:1999](https://standards.iteh.ai/catalog/standards/sist/810ec97c-328-477f-9b6f-e9d1d84d2e4/sist-en-61327-1999)

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 461: 1986, *Time and control code for video tape recorders*

IEC 735: 1991, *Measuring method for video tape properties*

IEC 958: 1989, *Digital audio interface*

IEC 1179: 1993, *Helical-scan digital composite video cassette recording system using 19 mm magnetic tape, format D-2 (NTSC, PAL, PAL-M)*

ITU-R Report 624-4: 1990, *Characteristics of television systems*

ITU-R Recommendation 647-1: 1990, *A digital audio interface for broadcasting studios*

UIT-T Recommendation J.17: 1972, *Pre-emphasis used on sound-programme circuits (Fascicle III.4)*

1.3 Definitions, symbols and abbreviations

For the purpose of this International Standard, the following definitions apply.

1.3.1 ECL: Emitter coupled logic, a family of digital logic integrated circuits. In this standard, ECL refers to the 10 000 series of logic integrated circuits.

1.3.2 GF Galois field: Mathematical field containing a finite number of elements in which algebraic operations may be performed. The number of field elements is generally written as an argument in parentheses, e.g. GF(256).

1.3.3 LSB

- 1) Least significant bit of a word of data.
- 2) Least significant byte of a data item consisting of two or more bytes.

1.3.4 MSB

- 1) Most significant bit of data.
- 2) Most significant byte of data item consisting of two or more bytes.

1.3.5 Sch: Colour subcarrier to horizontal sync timing relationship.

1.3.6 ECC: Error correcting code.

2 Technical data

2.1 Environment and test conditions

Tests and measurements made on the system to check the requirements of this standard shall be carried out under the following conditions.

- temperature: $20^{\circ}\text{C} \pm 1^{\circ}\text{C}$;
- relative humidity: $(50 \pm 2)\%$;
- barometric pressure: $(96 \pm 10)\text{ kPa}$;
- tape tension: $(0,31 \pm 0,05)\text{ N}$; *
- tape conditioning: not less than 24 h.

* The value measured with a tension monitor on the entrance side of the scanner may vary between manufacturers, but would typically be $0,30\text{ N} \pm 0,03\text{ N}$.