SLOVENSKI STANDARD
SIST HD 461 S1:1999

01-julij-1999

Helical-scan video tape cassette system using 12,65 mm (0,5 in) magnetic tape on type beta format (IEC 60767:1983)

Helical-scan video tape cassette system using 12,65 mm (0,5 in) magnetic tape on type beta format

Schrägspur-Videoaufzeichnungsystem für 12,65 mm (0,5 in) Magnetband in Kassetten (Beta Format)

Système de magnétoscope à cassette à balayage hélicoïdal utilisant la bande magnétique de 12,65 mm (0,5 in)(format bêta)

Ta slovenski standard je istoveten z: **HD 461 S1:1987**

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HELICAL-SCAN VIDEO TAPE CASSETTE SYSTEM USING 12.65 MM (0,5 IN) MAGNETIC TAPE ON TYPE BETA FORMAT

Système de magnétoscope à cassette à balayage hélicoïdal utilisant la bande magnétique de 12,65 mm (0,5 in) (format bêta)

Video-Bandkassettensystem mit Schrägspuraufzeichnung auf Magnetband 12,65 mm (0,5 in) Beta-Format

BODY OF THE HD

The Harmonization Document consists of:

- IEC 767 (1983) ed 1; IEC/SC 60B, not appended

This Harmonization Document was approved by CENELEC on 1986-02-27.

The English and French versions of this Harmonization Document are provided by the text of the IEC publication and the German version is the official translation of the IEC text. The German translation is available.

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Système de magnétoscope à cassette à balayage hélicoïdal utilisant la bande magnétique de 12,65 mm (0,5 in) (format bêta)

Helical-scan video tape cassette system using 12.65 mm (0.5 in) magnetic tape on type beta format

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HELICAL-SCAN VIDEO TAPE CASSETTE SYSTEM USING 12.65 mm (0.5 in) MAGNETIC TAPE ON TYPE BETA FORMAT

FOREWORD

1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.

2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.

3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

PREFACE

This standard has been prepared by Sub-Committee 60B: Video Recording, of IEC Technical Committee No. 60: Recording.

A draft was discussed at the meeting held in Prague in 1981. As a result of this meeting, a draft, Document 60B(Central Office)53A, was submitted to the National Committees for approval under the Six Months' Rule in April 1982.

The National Committees of the following countries voted explicitly in favour of publication:

Austria
Belgium
Canada
Czechoslovakia
Denmark
Finland
Germany
Italy
Netherlands
Norway
Poland
Romania
South Africa (Republic of)
Spain
United Kingdom

Other IEC publication quoted in this standard:

Publication No. 94-1: Magnetic Tape Sound Recording and Reproducing Systems, Part 1: General Conditions and Requirements.

HELICAL-SCAN VIDEO TAPE CASSETTE SYSTEM USING 12.65 mm (0.5 in) MAGNETIC TAPE ON TYPE BETA FORMAT

SECTION ONE — GENERAL

1. Scope

This standard applies to magnetic video recording using 12.65 mm (0.5 in) tape cassettes on two-head helical-scan video cassette recorders and defines the basic beta-format video cassette systems.

2. Object

This standard gives dimensional and other characteristics necessary to permit the interchangeability of recorded cassettes. The requirements given relate to the 525 line-60 field and 625 line-50 field systems.

Three tape speeds, 40 mm/s, 20 mm/s and 13.3 mm/s, are available for the 525 line-60 field systems.

Tape speed 18.7 mm/s applies to 625 line-50 field system.

3. Environment

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

Temperature:	20 ± 1 °C
Relative humidity:	50 ± 2%
Barometric pressure:	86 kPa to 106 kPa

SECTION TWO — VIDEO-TAPE CASSETTE

4. Mechanical parameters

4.1 *Datum planes*

Datum plane Z shall be determined by three datum spots A, B and C indicated in Figure 3, page 41.

Datum plane X shall be orthogonal to datum plane Z and include the centres of datum hole (a) and datum hole (b) as shown in Figure 2, page 39.

Datum plane Y shall be orthogonal to both datum plane X and datum plane Z and include the centre of datum hole (a) as shown in Figure 2, page 39.

4.2 *Dimensions of cassette*

The dimensions permitting the interchangeability of cassettes shall be in accordance with Figures 1 to 12, pages 37 to 53.

4.3 *Tape winding*

The recording side of the tape shall face outside on both the supply reel and take-up reel as shown in Figure 4, page 43.

4.4 *Label and/or window area*

The cross-hatched area in Figure 1 is available for the label and/or window. The label as well as the window shall not protrude beyond the height of the cassette.

4.5 *Cassette supporting areas*

The cassette shall be supported by the recorder and/or player unit on the hatched and cross-hatched area indicated in Figure 3.

4.6 *Cassette holding areas*

The cassette shall be held in position by the recorder and/or player unit on the holding area as described in Figure 1.

4.7 *Guiding grooves*

The cassette shall be provided with three guiding grooves for correct insertion as shown in Figures 1 and 2.

4.8 *Safety tab*

The cassette shall be provided with a safety tab as shown in Figure 2. The tab when broken out prevents accidental erasure. The tab shall be so constructed that it can withstand a force of 0.6 N using a rod of 2.5 mm diameter centred on the safety tab as shown in Figure 12, page 53.

4.9 *Protecting lid*

4.9.1 *Automatic locking*

The cassette shall be provided with a lid that is automatically unlocked upon insertion into the recorder and/or player unit and automatically locked upon ejection from it.

4.9.2 *Force to unlock the lid*

The lid can be unlocked by making the unlocking lever activate in either direction A or direction B, as illustrated in Figure 9, page 51. The force needed to unlock the lid shall be not greater than 1 N in the A direction and not greater than 1.5 N in the B direction.

4.9.3 *Force to open the lid*

The maximum force needed to open the lid shall be not greater than 1.5 N as specified in Figure 10, page 51.

4.9.4 *Opening range*

The opening range of the lid in the recorder and/or player unit shall be within $27.5^{+1.5}_{0}$ mm.

4.9.5 *Allowable and operating ranges for unlocking the lever of cassette lid*

The allowable range for unlocking the lever of the cassette lid is specified in Figure 8, page 49, as shown by the hatched and cross-hatched areas, while the cross-hatched areas specify the operation range for it.

4.10 *Reels*

4.10.1 *Locking of reels*

The reels shall be locked in order to avoid loosening of the tape during storage or transportation. Upon opening the lid, specified in Sub-clause 4.9, the reels shall be automatically unlocked.

4.10.2 *Reel spring*

The reels in the cassette shall be pushed down by the reel spring with a force of 1.5 ± 0.5 N as specified in Figure 11, page 51.

4.11 *Extraction force (F1, F2)*

With a holdback torque of 0.001 N.m applied to a nearly empty reel, the amount of force required to pull the tape out from the reel shall not exceed 0.17 N. This shall apply to both supply and take-up reels of the cassettes as shown in Figure 13a, page 53.

4.12 *Friction torque of the take-up reel*

With a holdback tension of 0.3 N applied to the nearly full take-up reel, the required torque to wind the tape shall not exceed 0.015 N.m as shown in Figure 13b, page 53.

SECTION THREE — VIDEOCASSETTE RECORDERS

5. Tape speed

The video tape speeds shall be as follows:

525 line-60 field			625 line-50 field
40.0 mm/s ± 0.5%	20.0 mm/s ± 0.5%	13.3 mm/s ± 0.5%	18.7 mm/s ± 0.5%

6. Drum diameter

The drum diameter shall be 74.487 ± 0.010 mm.

7. Tape tension

The tape back tension for a full supply reel shall be 0.45 ± 0.05 N measured at the entrance to the drum when the tape is pulled as shown in Figure 14, page 55. The ratio of tensions between the maximum and minimum tape diameters shall be set as follows:

$$\frac{\text{tension at minimum amount of winding (Ø 30 mm)}}{\text{tension at maximum amount of winding (Ø 70 mm)}} = 1 \text{ to } 1.2$$

8. Maximum forces and tensions

The machine shall not apply forces greater than the following:

The maximum force on the safety tab described in Sub-clause 4.8 shall be not greater than 0.6 N.

The maximum tension on the splicing portion shall be not greater than 10 N.

Maximum tension to the portions where the leader and trailer tapes are fixed on the reel hubs shall be not greater than 15 N.

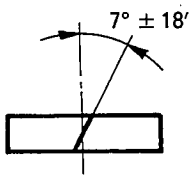
9. Automatic stop system

The tape transport shall have a mechanism which ensures that a non-contact automatic stopping device of the machine functions properly at both ends of the magnetic tape through the effect of the leader tape and trailer tape as specified in Clause 13.

10. Video heads

10.1 *Inclined azimuth angle*

The gap line of video heads shall be slanted in accordance with the figure below.



Video head A

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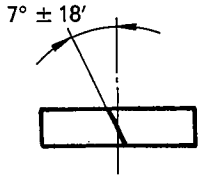

Video head B

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