



SLOVENSKI STANDARD
SIST EN 60756:1999
01-april-1999

Non-broadcast video tape recorders - Time base stability (IEC 60756:1991)

Non-broadcast video tape recorders - Time base stability

Videobandgeräte für den Gebrauch außerhalb des Rundfunks - Zeitbasisstabilität

Magnétoscopes utilisés hors de la radiodiffusion - Stabilité de base de temps

Ta slovenski standard je istoveten z: EN 60756:1993

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EUROPEAN STANDARD

EN 60756

NORME EUROPEENNE

EUROPÄISCHE NORM

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ENGLISH VERSION

Non-broadcast video tape recorders
Time base stability
 (IEC 756:1991)

Magnétoscopes utilisés hors de
 la radiodiffusion - Stabilité de
 base de temps

(CEI 756:1991)

Videobandgeräte für den
 Gebrauch außerhalb des
 Rundfunks -
 Zeitbasisstabilität

(IEC 756:1991)

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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 CENELEC questionnaire procedure, performed for finding out whether or not the International Standard IEC 756:1991 could be accepted without textual changes, has shown that no common modifications were necessary for the acceptance as European Standard.

The reference document was submitted to the CENELEC members for formal vote and was approved by CENELEC as EN 60756 on 9 December 1992.

This European Standard supersedes HD 458 S1:1985.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1993-12-01
- latest date of withdrawal of conflicting national standards (dow) 1993-12-01

ENDORSEMENT NOTICE

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radiodiffusion – Stabilité de base de temps**

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CONTENTS

	Page
FOREWORD	5
Clause	
1 Scope and object	7
2 Definitions concerning time base stability	7
2.1 Gap	7
2.2 Phase step	7
2.3 Deviation of line frequency	7
2.4 Deviation of colour carrier frequency	7
2.5 Relative displacement	9
3 Measurement of time base errors	9
3.1 Gap	9
3.2 Phase step	9
3.3 Deviation of line frequency	9
3.4 Deviation of colour carrier frequency	9
4 Maximum values of time base errors	9
4.1 Gap	9
4.2 Phase step	11
4.3 Deviation of line frequency	11
4.4 Deviation of colour carrier frequency	11
5 Weighting curves	13
5.1 Weighting curve for CCIR System 525/60	13
5.2 Weighting curve for CCIR System 625/50	13
6 Time base stability at playback speeds different from the nominal value	15
6.1 Signal transitions	15
6.2 Horizontal synchronizing signal	17
6.3 Vertical synchronizing signal	17
FIGURES	
1 Signal transitions (one field) - One head is used per scan	19
2 Signal transition (one field) - More than one head is used per scan	21
3 Test arrangement for checking the distortion of the synchronizing signal due to signal transitions during playback in "trick"-mode	21

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**NON-BROADCAST VIDEO TAPE RECORDERS -
TIME BASE STABILITY**
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.
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This International Standard has been prepared by Sub-Committee 60B: Video recording, of IEC Technical Committee No. 60: Recording.

It forms the second edition of IEC 756 and supersedes the first edition issued in 1983.

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

Six Months' Rule	Report on Voting
60B(CO)102	60B(CO)117

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

NON-BROADCAST VIDEO TAPE RECORDERS - TIME BASE STABILITY

1 Scope and object

This International Standard specifies the time base errors of the monochrome as well as of the colour composite video signal reproduced from two head helical-scan domestic video recorders, recording one field on each track. This standard gives characteristics and maximum figures of the time base errors to make it possible to design the horizontal flywheel of television receivers so as to ensure acceptable stability on the screen.

2 Definitions concerning time base stability

2.1 Gap

Loss of video signal during a certain period of each field.

2.2 Phase step

2.2.1 Due to a difference between the length of the head path and the length of the recorded track, a phase step occurs at the end of the gap respectively at the time of switching from one track to the next. The sign of the phase step depends on the sign of the difference of lengths.

2.2.2 Due to a deviation of the angle between the two video heads from the theoretical value of 180° , a phase step occurs at the end of the gap respectively at the time of switching from one track to the next. The sign of the phase step alternates from one field to the next.

2.3 Deviation of line frequency

2.3.1 The mean value of the line frequency is determined by the source to which the recorder is locked. If the frequency of this source deviates from the frequency of the source used during recording, the mean value of the line frequency of the playback signal will differ from its original value. If the machine is not locked to an external reference, the deviation will depend on the difference between head speed during recording and that during playback.

2.3.2 Because neither head nor tape velocities are constant, a jitter of the line frequency occurs containing various frequency components which depend on mechanical parts of the tape deck and varying tape properties.

2.4 Deviation of colour carrier frequency

2.4.1 Depending on the modulation system used in the colour signal processing, a deviation of the mean value of the colour carrier frequency from its original value may occur.

2.4.2 Depending on the modulation system used in the colour signal processing the jitter of the colour carrier frequency will be a certain percentage of the jitter of the line frequency.

2.5 *Relative displacement*

Relative displacement is defined as the ratio of the horizontal displacement of a picture element to the line interval.

3 Measurement of time base errors

3.1 *Gap*

The timing of the gap relative to the vertical sync pulse, the gap duration and signals during the gap shall be measured with an oscilloscope.

3.2 *Phase step*

The phase step due to a difference of lengths and the phase step due to a deviation of angles are superimposed and shall be measured on the screen of a monitor or of a television set. This shall be done by measuring the horizontal deviation of a vertical bar at the end of the gap with respect to the horizontal position of the vertical bar at the beginning of the gap respectively before and after the time of switching from one track to the next.

3.3 *Deviation of line frequency*

SIST EN 60756:1999

3.3.1 The mean value of the line frequency shall be measured by a counter or a frequency discriminator having a long time constant with respect to the line frequency.

3.3.2 The jitter of the line frequency shall be measured by a frequency discriminator or by measuring the line period. The jitter shall be determined by the percentage of peak-to-peak deviation from the average value $\Delta f_{H(pp)}/f_H$ and weighted by a weighting curve due to the fact that the reaction of the horizontal flywheel of television receivers depends on the frequency of the jitter.

3.4 *Deviation of colour carrier frequency*

3.4.1 The mean value of the colour carrier frequency shall be measured by a frequency counter.

3.4.2 The method of measuring the jitter of the colour carrier frequency is under consideration.

4 Maximum values of time base errors

4.1 *Gap*

The centre of the gap should lie three to 15 lines before the leading edge of the vertical sync pulse. The duration of the gap should be less than five lines. The signal during the gap shall be a constant level between black level and white level upon which an unwanted