

Videodisk players — Methods of measurement

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Summary of pages

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(IEC 61599:1999)**

Lecteurs de vidéodisques
Méthodes de mesure
(CEI 61599:1999)

Videoplatten-Abspielgeräte
Meßverfahren
(IEC 61599:1999)

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European Committee for Electrotechnical Standardization
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Foreword

The text of document 100B/229/FDIS, future edition 1 of IEC 61599, prepared by SC 100B, Audio, video and multimedia information storage systems, of IEC TC 100, Audio, video and multimedia systems and equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61599 on 1999-10-01.

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- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2002-10-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annex ZA is normative and annexes A and B are informative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61599:1999 was approved by CENELEC as a European Standard without any modification.

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VIDEODISK PLAYERS – METHODS OF MEASUREMENT

1 General

1.1 Scope

This International Standard applies to reproducing equipment for videodisks for home use (hereinafter referred to as "player"), that conforms to the specifications of IEC 60844, IEC 60845, IEC 60856 and IEC 60857.

This standard deals with listing and defining the characteristics affecting the performance of videodisk players, establishing conditions and methods of measurement of those characteristics, and standardizing the presentation of results. This standard is not applicable to specify limiting values of the various quantities for acceptable performances. The methods of measurement are designed to make possible the assessment of the performance of the complete player.

1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, 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. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60038:1983, *IEC standard voltages*

IEC 60065:1985, *Safety requirements for mains operated electronic and related apparatus for household and similar general use*

IEC 60844:1988, *Pre-recorded capacitance grooveless videodisk system, 50 Hz/625 lines – PAL, on type VHD*

IEC 60845:1988, *Pre-recorded capacitance grooveless videodisk system, 60 Hz/525 lines – NTSC, on type VHD*

IEC 60856:1986, *Pre-recorded optical reflective videodisk system. "Laser vision" 50 Hz/625 lines – PAL*

IEC 60857:1986, *Pre-recorded optical reflective videodisk system. "Laser vision" 60 Hz/525 lines – M/NTSC*

IEC 60883:1987, *Measuring method for chrominance signal-to-random noise ratio for videotape recorders*

IEC 60958:1989, *Digital audio interface*

IEC 61041-1:1990, *Non-broadcast video tape recorders – Methods of measurement – Part 1: General, video (NTSC/PAL) and audio (longitudinal) characteristics*

IEC 61096:1992, *Methods of measuring the characteristics of reproducing equipment for digital audio compact discs*

IEC 61237-2:1995, *Broadcast video tape recorders – Methods of measurements – Part 2: Electrical measurements of analogue composite video signals*

IEC 61606:1997, *Audio and audiovisual equipment – Digital audio parts – Basic methods of measurement of audio characteristics*

IEC 61938:1996, *Audio, video and audiovisual systems – Interconnections and matching values – Preferred matching values of analogue signals*

ITU-R Recommendation 471, *Nomenclature and description of colour bar signals*

ITU-R Recommendation 567, *Transmission performance for television circuits designed for use in international connections*

ITU-R Report 476, *Colourimetric standards in colour television*

1.3 Terms and definitions

For the purpose of this International Standard, the following definitions apply. In addition, each parameter to be measured is defined in the relevant clause pertaining to the measurement.

1.3.1

reference level

specified level of any given parameter selected as a reference to which other levels are compared

1.3.2

setting of player

a player plays back a test disk in a normal playback mode. The user settings should be adjusted according to the specifications of the manufacturer. Use the indexed position if indexing is available

1.3.3

test signal output

the output of the test signal should be obtained from the video or audio output terminals described in the interface specifications of the manufacturer's instruction manual, unless otherwise stated

1.4 Abbreviations

LV: laser vision

VHD: video high density

2 Information required from manufacturers of videodisk players

This information falls into two categories:

- a) mandatory information, which shall be clearly shown on the videodisk player. This requirement is indicated by the letter "A" on the right-hand side of the statements in this clause;
- b) optional information, which may be given separately, for example in an instruction manual relating to and supplied with the videodisk player.

It is essential that mandatory information outside the scope of this standard shall also be given in the correct location, as specified in the relevant standards (for example, for aspects of safety, see IEC 60065).

2.1 Identification

2.1.1 Name of manufacturer and/or trade mark **A**

2.1.2 Model or type and serial number (variants, if any, to be stated) **A**

2.1.3 Mechanical characteristics of videodisk player

2.1.3.1 Dimensions

(including knobs, connectors and plugs at front and rear sides)

- height millimetres (mm)
- width millimetres (mm)
- depth millimetres (mm)

2.1.3.2 Total weight

kilograms (kg)

2.1.3.3 Special facilities

- operating position horizontal, or other
- systems single disk player, multi-disk player, car use, portable
- remote control
- programming

2.1.4 Electrical characteristics

- mains supply volts (V) **A**
- mains frequency hertz (Hz) **A**
- power consumption voltamperes (VA) **A**
- output facilities digital/analogue/optical or other

2.1.5 Environment

- temperature range degrees Celsius (°C)
- relative humidity per cent (%)
- air pressure kilopascals (kPa)

2.2 Standard conditions for measurements

It is necessary to define certain conditions under which the measurements are to be made. These conditions shall be related to specific test disks chosen from the disks listed in annex A. The following parameters are basic to the methods of measurement specified in this standard:

- environmental conditions;
- power supply;
- interface data.

Preferred values or ranges of the conditions are given in brackets following each parameter listed below.

Unless otherwise specified, measurements shall be made according to the conditions shown below. These conditions need not necessarily be observed if they do not affect the measurement results.

2.2.1 Environmental conditions

- ambient temperature [20 °C ± 2 °C]
- relative humidity [65 % ± 5 %]
- air pressure [96 kPa ± 10 kPa]
- minimum stabilization time of videodisk player at ambient temperature after switching on [60 min]

2.2.2 Power supply (see 2.3)

- voltage [see IEC 60038]
- frequency a.c. power supply frequency shall be either 50 Hz or 60 Hz within ±2 %

2.2.3 Interface data for audio

- fixed analogue audio output matching values for interconnections [see IEC 61938]
- digital audio output [see IEC 60958]
- other outputs

2.2.4 Test disks

The test disk used in the measurement shall be chosen from the disks listed in annex A, unless otherwise specified. The signals recorded on the test disk shall correspond to the signals listed in this standard (clauses 4, 5 and 6) and a detailed description shall be attached (for example, type of signal, frequency, amplitude, duration, pre-emphasis).

2.3 Performance claims

The performance claims shall be based on the videodisk player operating under the conditions specified in 2.2. Unless otherwise specified in 2.2.1 or 2.2.2 (for example maximum or minimum values), a tolerance shall be allocated to each parameter. Where the manufacturer claims power supply voltage tolerances in excess of ±10 %, the characteristics to be specified shall also be stated for the upper and lower limits of these tolerances.

If the variation in the frequency of the power supply within the tolerances specified by the manufacturer has any significant influence on the characteristics to be specified, these characteristics shall also be stated for the upper and lower limits of the claimed frequency tolerances.

If harmonics in the a.c. power supply or ripples in the d.c. power supply, within limits specified by the manufacturer have any significant influence on the characteristics to be specified, these characteristics shall also be stated for the upper limit of the claimed tolerances of harmonic or ripple content.

2.4 Additional considerations

In the subclause pertaining to the relevant method of measurement, the conditions specified in 2.2 shall apply, unless otherwise stated.

The person who carries out the testing shall:

- a) report any deviations from the parameters specified in 2.2;
- b) report the test disk and measurement instruments used;
- c) ensure that the measurement instruments have reached stability before measurement is started.

2.4.1 Manual and automatic measurements

If an automatic measuring device is designed to give reliable results under the special conditions of the videodisk player, such as drop-out, jitters or time-base errors, a significant improvement in measurement speed, accuracy and compatibility of results may be achieved.

Preference is given to measurement methods that can be carried out by automatic measuring equipment, or which are suitable for automatic measuring techniques.

Except where a distinction is made in particular clauses between manual and automatic methods of measurement, the measurement procedures given in this standard are valid for both methods. The various steps are described as if they were performed manually although, in the case of automatic measurements, the procedure is carried out automatically by the automatic measuring device.

2.4.2 Caution concerning modifications to players

The videodisk player under test shall, if necessary, be temporarily modified for measuring.

The performances of the player shall not be affected by these modifications.

3 Power consumption

Definition

Power consumption that the videodisk player can draw from the electric supply under normal operating conditions.

Measuring method

Measure the input power taken from the electrical supply when the player is operating under unfavourable conditions, using a VA-meter.

Presentation of results

The result is quoted in voltamperes (VA).