



SLOVENSKI STANDARD

SIST EN 60094-2:1999

01-april-1999

Magnetic tape sound recording and reproducing systems -- Part 2: Calibration tapes (IEC 60094-2:1994)

Magnetic tape sound recording and reproducing systems -- Part 2: Calibration tapes

Systeme für Tonaufzeichnung und -wiedergabe auf Magnetband -- Teil 2: Bezugsbänder

Systèmes d'enregistrement et de lecture du son sur bandes magnétiques -- Partie 2: Bandes magnétiques étalons (standards.iteh.ai)

Ta slovenski standard je istoveten z: ^{SIST EN 60094-2:1999} EN 60094-2:1995

<https://standards.iteh.ai/catalog/standards/sis/45ac101a-0172-4da1-bf4d-33116f3e0407/sist-en-60094-2-1999>

ICS:

33.160.30 Avdio sistemi Audio systems

SIST EN 60094-2:1999 en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60094-2

January 1995

ICS 33.160.30

Supersedes EN 60094-2:1993

Descriptors: Sound system equipment, sound recording and reproduction, magnetic tape, calibration, adjustment, recording characteristic

English version

Magnetic tape sound recording and reproducing systems
Part 2: Calibration tapes
(IEC 94-2:1994)

Systèmes d'enregistrement et de lecture
du son sur bandes magnétiques
Partie 2: Bandes magnétiques étalons
(CEI 94-2:1994)

Systeme für Tonaufzeichnung
und -wiedergabe auf Magnetband
Teil 2: Bezugsbänder
(IEC 94-2:1994)

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This European Standard was approved by CENELEC on 1994-03-08. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Page 2
EN 60094-2:1995

Foreword

The text of document 60A(CO)153, future amendment to IEC 94-2:1975, prepared by SC 60A, Sound recording, of IEC TC 60, Recording, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A3 to EN 60094-2:1993 on 1994-03-08.

The text of this document, together with that of IEC 94-2:1975 and its amendments 1:1987 and 2:1991, was published by IEC as the second edition of IEC 94-2 in July 1994. According to a decision of principle taken by the Technical Board of CENELEC, the approval of EN 60094-2:1993/A3 has been converted into the approval of a new EN 60094-2.

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) 1995-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1995-07-01

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Endorsement notice

The text of the International Standard IEC 94-2:1994 was approved by CENELEC as a European Standard without any modification.

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**NORME
INTERNATIONALE
INTERNATIONAL
STANDARD**

**CEI
IEC
94-2**

Deuxième édition
Second edition
1994-07

**Systèmes d'enregistrement et de lecture
sur bandes magnétiques –**

**Partie 2:
Bandes magnétiques étalons**

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**Magnetic tape recording and reproducing
systems –**

EN 60094-2:1999

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Part 2:

Calibration tapes

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International Electrotechnical Commission
Международная Электротехническая Комиссия

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Publication 94-2 de la CEI
(Deuxième édition - 1994)

Systèmes d'enregistrement et de lecture
du son sur bandes magnétiques –

Partie 2: Bandes magnétiques talons

IEC Publication 94-2
(Second edition - 1994)

Magnetic tape sound recording
and reproducing systems –

Part 2: Calibration tapes

C O R R I G E N D U M 1

*Page de couverture, page de titre, page 2 et
page 4, remplacer le titre existant par le
nouveau titre amendé suivant:*

**Systèmes d'enregistrement et
de lecture du son sur bandes
magnétiques –**

**Partie 2: Bandes magnétiques
talons**

*Cover page, title page, page 3 and page 5,
replace the existing title by the following
new amended title:*

**Magnetic tape sound recording
and reproducing systems –**

Part 2: Calibration tapes

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MAGNETIC TAPE RECORDING AND
REPRODUCING SYSTEMS –****Part 2: Calibration tapes**

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.
- 2) 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.
- 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.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.

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International Standard IEC 94-2 has been prepared by sub-committee 60A: Sound recording, of IEC technical committee 60: Recording.

This second edition cancels and replaces the first edition published in 1975, Amendment 1 of 1987 and Amendment 2 of 1991.

The text of this standard is based on the first edition of 1975, Amendment 1 (1987) and Amendment 2 (1991) and the following documents:

DIS	Report on voting
60A(CO)153	60A(CO)160

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

Annex A is for information only.

MAGNETIC TAPE RECORDING AND REPRODUCING SYSTEMS –

Part 2: Calibration tapes

1 Scope

This standard specifies the minimum requirements for calibration tapes for making adjustment and comparative assessments of the reproducing performance of both professional and domestic magnetic tape recording/reproducing equipment.

This standard applies to both lubricated and non-lubricated tapes, recorded across specified parts or the full width of the tape.

2 Object

The object of this standard is to specify the contents, the format and the tolerances of calibration tapes so that measurements made on any recording/reproducing equipment using tapes manufactured in accordance with the requirements of this standard shall be directly comparable.

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3 General requirements

Each standard calibration tape shall have at least the following sections:

- 1) reference level;
- 2) azimuth;
- 3) amplitude/frequency response.

Each section shall be recorded at a recording angle of $90^\circ \pm 1'$, relative to the edge of the tape.

Over the frequency range used, all of the octave frequencies of the preferred ISO/R 266 frequencies, relative to 1 000 Hz, shall be used. Additional frequencies shall be used from the one-third octave. If further frequencies are required, one-sixth octave shall be applied.

Each section shall be announced and the official IEC languages are preferred.

At the beginning of the tape, the standard tape speed to which the calibration refers, the characteristic to which the tape has been recorded and the date of recording shall be announced, for instance "IEC calibration tape for 38,1 cm/s (15 in/s) recorded to a 35 μ s time constant in accordance with IEC Publication 94, first edition".

An announcement at the beginning of each section shall specify the content of that section; for the reference level section, the short-circuit flux per unit track width; and for the other sections, the short-circuit flux level relative to that of the reference level section; for example:

- Reference level section: 1 000 Hz at 320 nWb/m.
- Azimuth section: 1 000 Hz at minus 10 dB.
- Amplitude/frequency response section: 1 000 Hz at minus 20 dB.

Announcements shall be recorded at a peak level slightly lower than the recorded signals in that section.

An instruction sheet shall accompany each tape. It shall specify the relevant IEC publications and the date of production of the calibration tape and shall include at least a description of the contents of the tape.

4 Tapes for use at speeds of 38,1 cm/s (15 in/s) and 19,05 cm/s (7 1/2 in/s)

4.1 Reference level section

A signal at the reference frequency, preferably of $1\,000 \pm 30$ Hz, shall be recorded at a specified short-circuit flux per unit track width, preferably of 320 nWb/m, and having a distortion of less than or equal to 1 %. The duration of the signal shall be at least 30 s.

The tolerance of the reference flux of commercially available calibration tapes shall not exceed ± 5 %.

4.2 Azimuth section

Signals of 1 000 Hz and 10 000 Hz shall be recorded. The 1 000 Hz signal shall be recorded at a specified short-circuit flux per unit track width, preferably of 100 nWb/m. The duration of the signal shall be at least 10 s and 60 s respectively.

4.3 Amplitude/frequency response section

The following signals shall be recorded, preferably in the order shown. The first 1 000 Hz signal, recorded at a specified short-circuit flux per unit track width of at least 32 nWb/m, shall be the reference signal. Each signal shall have a duration of at least 10 s. The maximum deviation in the frequencies shown shall be ± 3 %.

1 000 Hz, 31,5 Hz, 40 Hz, 50 Hz*, 63 Hz, 80 Hz*, 100 Hz*, 125 Hz, 250 Hz, 500 Hz, 1 000 Hz, 2 000 Hz, 4 000 Hz, 6 300 Hz, 8 000 Hz, 10 000 Hz, 12 500 Hz, 14 000 Hz*, 16 000 Hz, 18 000 Hz*, 20 000 Hz*, 1 000 Hz.

* Optional