
**Helical-scan video tape cassette system using 8 mm magnetic tape - 8 mm Video --
Part 2: PCM multi-track audio system (IEC 61119-5:1993)**

Helical-scan video tape cassette system using 8 mm magnetic tape - 8 mm Video -- Part
2: PCM multi-track audio system

Videoband-Kassettensystem mit Schrägspuraufzeichnung auf Magnetband 8 mm - 8 mm
Video -- Teil 2: PCM-Vielfachspur-Audiosystem

Système de magnétoscope à cassette à balayage hélicoïdal utilisant la bande
magnétique de 8 mm - Vidéo 8 mm -- Partie 2: Système audio multipiste MIC

<https://standards.iteh.ai/catalog/standards/sist/8274a148-64f1-4c66-8487-54e2028d22ad/sist-en-60843-2-1999>

Ta slovenski standard je istoveten z: EN 60843-2:1995

ICS:

33.160.40

Video sistemi

Video systems

SIST EN 60843-2:1999

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 60843-2:1999

<https://standards.iteh.ai/catalog/standards/sist/8274a148-64f1-4c66-8487-54e2028d22ad/sist-en-60843-2-1999>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60843-2

June 1995

ICS 33.160.40

Descriptors: Video recording, sound recording, electroacoustic equipment, video tape recorder, magnetic tapes, cassettes for magnetic tapes, recording tracks, specifications, dimensions, recording characteristics

English version

Helical-scan video tape cassette system using 8 mm magnetic tape
8 mm Video
Part 2: PCM multi-track audio system
(IEC 843-2:1992)

Système de magnétoscope à cassette à
balayage hélicoïdal utilisant la bande
magnétique de 8 mm
Vidéo 8 mm

Partie 2: Système audio multipiste MIC
(CEI 843-2:1992)

Videoband-Kassettsystem mit
Schrägschraufzeichnung auf
Magnetband 8 mm
8 mm Video

Teil 2: PCM-Vielfachspur-Audiosystem
(IEC 843-2:1992)

SIST EN 60843-2:1999

<https://standards.iteh.ai/catalog/standards/sist/8274a148-64f1-4c66-8487-54e2028d22ad/sist-en-60843-2-1999>

This European Standard was approved by CENELEC on 1995-05-15. 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

Foreword

The text of the International Standard IEC 843-2:1992, prepared by SC 60B, Video recording, of IEC TC 60, Recording, was submitted to the formal vote and was approved by CENELEC as EN 60843-2 on 1995-05-15 without any modification.

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.
In this standard, annexes A, B and ZA are normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 843-2:1992 was approved by CENELEC as a European Standard without any modification.

(standards.iteh.ai)

SIST EN 60843-2:1999

<https://standards.iteh.ai/catalog/standards/sist/8274a148-64f1-4c66-8487-54e2028d22ad/sist-en-60843-2-1999>

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 843-1	1993	Helical-scan video tape cassette system using 8 mm magnetic tape 8 mm Video Part 1: General specifications	EN 60843-1	1994
IEC 843-3	1993	Part 3: High-band specifications for Hi 8	EN 60843-3	1993
IEC 1105	1991	Reference tapes for video tape recorder systems	EN 61105	1993

[SIST EN 60843-2:1999](https://standards.iteh.ai/catalog/standards/sist/8274a148-64f1-4c66-8487-54e2028d22ad/sist-en-60843-2-1999)

<https://standards.iteh.ai/catalog/standards/sist/8274a148-64f1-4c66-8487-54e2028d22ad/sist-en-60843-2-1999>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 60843-2:1999

<https://standards.iteh.ai/catalog/standards/sist/8274a148-64f1-4c66-8487-54e2028d22ad/sist-en-60843-2-1999>

NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC
1119-5

Première édition
First edition
1993-05

Système audionumérique à cassette (DAT)

Partie 5:
DAT pour usage professionnel

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Part 5:
DAT for professional use

<https://standards.iteh.ai/catalog/standards/sist/8274a148-64f1-4c66-8487-54e2028d22ad/sist-en-60843-2-1999>

© CEI 1993 Droits de reproduction réservés — Copyright — all rights reserved

Aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'éditeur.

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher

Bureau central de la Commission Electrotechnique Internationale 3, rue de Varembe Genève Suisse



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

Q

● Pour prix, voir catalogue en vigueur
For price, see current catalogue

		Page
FOREWORD		5
Clause		
1 Scope and object		7
2 Normative references		7
3 Description of the system		7
6 Track configuration and pattern		9
6.1 Track configuration		9
6.1.1 Tape speed and number of tracks per second		9
11 Audio encoding		9
11.1 Mode application		9
11.1.1 Audio encoding mode		9
11.1.2 System application		9
11.2 Source encoding		9
11.2.1 Pre-emphasis		9
11.2.2 Number of audio channels		9
11.2.3 Sampling frequency		9
11.2.4 Sampling timing		11
11.2.5 Quantization		11
11.3 Word to symbol conversion		11
11.3.1 Audio data word		11
11.3.2 48k mode, 44k mode and 32k mode		11
11.4 Interleave format		11
11.4.1 48k mode, 44k mode and 32k mode		11
12 Subcode encoding for audio use		13
12.1 Subcode in main ID		13
12.1.1 Bit assignment of ID1 to ID7		13
12.3 Subcode in subdata		13
12.3.4 Professional time and control code recording		13
12.3.4.1 Pro R Time pack		15
12.3.4.2 Pro binary pack		27
12.3.4.3 Alignment of Pro DAT time and control code to audio signal		33
12.4 Subcode in main data		33
12.5 Application rules of subcode for pre-recorded tape		33
Annex A – Advice for the professional applications of DAT		35

INTERNATIONAL ELECTROTECHNICAL COMMISSION

DIGITAL AUDIO TAPE CASSETTE SYSTEM (DAT)

Part 5: DAT for professional use

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.

International Standard IEC 1119-5 has been prepared by sub-committee 60A: Sound recording, of IEC technical committee 60: Recording.

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

DIS	Report on Voting
60A(CO)138	60A(CO)150

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

IEC 1119 consists of the following parts, under the general title: Digital audio tape cassette system (DAT):

- Part 1: 1992, Dimensions and characteristics
- Part 2: 1991, DAT calibration tape
- Part 3: 1992, DAT tape properties
- Part 5: 1993, DAT for professional use
- Part 6: 1992, Serial copy management system

Annex A is for information only.

Part 4 is under consideration.

DIGITAL AUDIO TAPE CASSETTE SYSTEM (DAT)

Part 5: DAT for professional use

Explanatory notes

IEC 1119-5 shall be used in conjunction with the first edition (1992) of IEC 1119-1: *Digital audio tape cassette system (DAT) – Part 1: Dimensions and characteristics*.

The clause numbers of this Part 5 corresponds to those in IEC 1119-1, and any text given in this Part 5 shall modify the text given in IEC 1119-1. Absence of text in this Part 5 indicates that the provisions of the relevant clause in IEC 1119-1 shall apply.

1 Scope and object

This part of IEC 1119 applies to professional use of the digital audio tape cassette system (DAT) for recording and/or reproducing digital audio signals. It defines the mechanical and electrical characteristics necessary to ensure full interchangeability between software and hardware in any geographical location.

[SIST EN 60843-2:1999](https://standards.iteh.ai/catalog/standards/sist/8274a148-64f1-4c66-8487-54e2028d22ad/sist-en-60843-2-1999)

[https://standards.iteh.ai/catalog/standards/sist/8274a148-64f1-4c66-8487-](https://standards.iteh.ai/catalog/standards/sist/8274a148-64f1-4c66-8487-54e2028d22ad/sist-en-60843-2-1999)

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 1119. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 1119 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 958: 1989, *Digital audio interface*

IEC 1119-1: 1992, *Digital audio tape cassette system (DAT) – Part 1: Dimensions and characteristics*

3 Description of the system

The information carrier is a magnetic tape of 3,81 mm width wound on flangeless hubs which are located in a cassette containing a slider and a lid to protect the tape from accidental damage. The tape is of the metal powder type or its equivalent. The digital

information is recorded using the helical scanning principle and can be erased by over-writing.

The digital information is read by magnetic heads using an automatic track finding (ATF) scheme for following the tracks.

6 Track configuration and pattern

6.1 Track configuration

6.1.1 Tape speed and number of tracks per second

The speed of the magnetic tape shall be 8,150 mm/s \pm 0,5% and the number of tracks recorded per second shall be 200/3.

11 Audio encoding

11.1 Mode application

11.1.1 Audio encoding mode

Three audio encoding modes are specified. These modes are called the 48k mode, the 44k mode and the 32k mode.

11.1.2 System application

The 48k mode is mandatory. The 44k mode and 32k mode are optional.

11.2 Source encoding

11.2.1 Pre-emphasis

In general the use of pre-emphasis is not recommended. If pre-emphasis is applied, it shall be identified on the tape and shall have the same characteristics as IEC 1119-1.

11.2.2 Number of audio channels

Two channels of the audio signal, indicated as A and B, can be recorded in the 48k mode, 44k mode and 32k mode.

The channels A and B correspond to left and right channels respectively, in stereophonic use.

11.2.3 Sampling frequency

The accuracy of the sampling frequency at the encoding shall be within $\pm 50 \cdot 10^{-6}$.