SLOVENSKI STANDARD
SIST EN 61120-2:1999

01-april-1999

Digital audio tape recorder reel to reel system, using 6,3 mm magnetic tape, for professional use -- Part 2: Format A (IEC 61120-2:1991)

Digital audio tape recorder reel to reel system, using 6,3 mm magnetic tape, for professional use -- Part 2: Format A

Digitales Tonbandgerät - Spulensystem mit Magnetband 6,3 mm für Studioanwendung -- Teil 2: Format A

Système d'enregistrement à bande audionumérique, bobine à bobine, utilisant une bande magnétique de 6,3 mm, à usage professionnel -- Partie 2: Format A

Ta slovenski standard je istoveten z: **EN 61120-2:1993**

ICS:

33.160.30	Avdio sistemi	Audio systems

SIST EN 61120-2:1999 **en**

EUROPEAN STANDARD | EN 61120-2

NORME EUROPEENNE

EUROPÄISCHE NORM | October 1993

UDC 621.396.7:681.84.083.84:681.327.636

Descriptors: Audio recording, digital recording, magnetic tape, data convertor, code, format, recording characteristics, recording track

ENGLISH VERSION

Digital audio tape recorder reel to reel system, using 6,3 mm magnetic tape, for professional use
Part 2: Format A
(IEC 1120-2:1991)

Système d'enregistrement à bande audionumérique, bobine à bobine, utilisant une bande magnétique de 6,3 mm, à usage professionnel
Partie 2: Format A
(CEI 1120-2:1991)

Digitales Tonbandgerät Spulensystem mit Magnetband 6,3 mm für Studioanwendungen
Teil 2: Format A
(IEC 1120-2:1991)

This European Standard was approved by CENELEC on 1993-09-22. 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 CENELEC questionnaire procedure, performed for finding out whether or not the International Standard IEC 1120-2:1991 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 61120-2 on 22 September 1993.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1994-09-01

- latest date of withdrawal of conflicting national standards (dow) 1994-09-01

For products which have complied with the relevant national standard before 1994-09-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1999-09-01.

Annexes designated "normative" are part of the body of the standard. In this standard, annex ZA is normative.

ENDORSEMENT NOTICE

The text of the International Standard IEC 1120-2:1991 was approved by CENELEC as a European Standard without any modification.

ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD WITH THE REFERENCES OF THE RELEVANT 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.

NOTE : When the international publication has been modified by CENELEC common modifications, indicated by (mod), the relevant EN/HD applies.

IEC Publication	Date	Title	EN/HD	Date
1120-1	1991	Digital audio tape recorder reel to reel system, using 6,3 mm magnetic tape, for professional use - Part 1: General requirements	EN 61120-1	1993
1120-3	1991	Part 3: Format B	EN 61120-3	1993
1120-4	1992	Part 4: Magnetic tape properties Definitions and methods of measurement	EN 61120-4	1992

NORME INTERNATIONALE
INTERNATIONAL STANDARD

CEI
IEC
1120-2

Première édition
First edition
1991-10

Système d'enregistrement à bande audio-numérique, bobine à bobine, utilisant une bande magnétique de 6,3 mm, à usage professionnel

Partie 2:
Format A

Digital audio tape recorder reel to reel system, using 6,3 mm magnetic tape, for professional use

Part 2:
Format A

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

IEC
Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE
R

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

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

DIGITAL AUDIO TAPE RECORDER REEL TO REEL SYSTEM, USING 6,3 mm MAGNETIC TAPE, FOR PROFESSIONAL USE

Part 2: Format A

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.

This part of IEC 1120 has been prepared by Sub-Committee 60A: Sound recording, of IEC Technical Committee No. 60: Recording.

This part should be used in conjunction with parts 1 and 3 of this standard.

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

Six Months' Rule	Report on Voting
60A(CO)125	60A(CO)132

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

The following IEC publications are quoted in this standard:

Publications Nos. 1120-1: Digital Audio Tape Recorder reel to reel system, using 6,3 mm magnetic tape, for professional use - Part 1: General requirements.

1120-3: Digital Audio Tape Recorder reel to reel system, using 6,3 mm magnetic tape, for professional use - Part 3: Format B.

1120-4: Digital Audio Tape Recorder reel-to-reel system, using 6,3 mm magnetic tape, for professional use - Part 4: Magnetic tape properties: Definitions and methods of measurement. (Under consideration.)

DIGITAL AUDIO TAPE RECORDER REEL TO REEL SYSTEM, USING 6,3 mm MAGNETIC TAPE, FOR PROFESSIONAL USE

Part 2: Format A

Electrical requirements for recording and reproducing equipment.

1 Main track recording

1.1 *Recording modulation method*

In this subclause a method is first defined to convert binary data sequence of each of the 8 main digital tracks for recording on the magnetic tape. The second item described in 1.2.3, is the definition of the synchronization pattern in recording code. The converted code is given by NRZI.

The 2/4 M system is defined by dividing a binary data sequence into two-bit data segments and converting these into four-cell codes using the data of the four bits preceding and the four bits succeeding the two-bit data segment. The system uses the collected data to convert the two-bit data segments into four-cell codes ensuring that no less than two and no more than seven code cells "0" exist between any code cells "1" in a sequence of converted code. The conversion rule is given by the following table.

2/4 M conversion table

Original data bits	Converted code cells	Contents
11	Y000	Unconditional
01	0010	
10	0100	"E_2 E_1" ≠ "10" and "L_1 L_2" = "00"
10	0001	"E_2 E_1" = "10" and "L_1 L_2" ≠ "00"
10	0000	"E_2 E_1" = "10", "L_1 L_2" = "10" and "L_3 L_4" = "00"
10	0100	"E_2 E_1" ≠ "10", "L_1 L_2" = "10" and "L_3 L_4" = "00"
10	Y001	Except the foregoing
00	0000	"E_4 E_3" ≠ "10", "E_2 E_1" = "10" and "L_1 L_2" ≠ "01"
00	0001	"E_4 E_3" ≠ "10", "E_2 E_1" = "10" and "L_1 L_2" = "01"
00	0000	"E_4 E_3" = "10" and "E_2 E_1" = "10"
00	0100	Except the foregoing

where:

E_n = data bits preceded by n-bit, to 2-bit data to be converted in original data sequence

L_n = data bits succeeded by n-bit, to 2-bit data to be converted in original data sequence

Y = complement logic of logical sum of two cells immediately before code bit Y in the converted code sequence

The converted code is given by NRZI.

1.2 *Signal block structure*

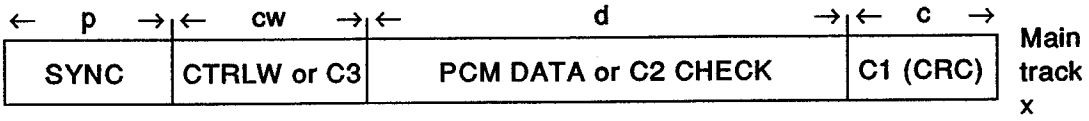
1.2.1 *The word format*

The word slots to be recorded on the main tracks have 20 bits at speed I and 16 bits at speed II.

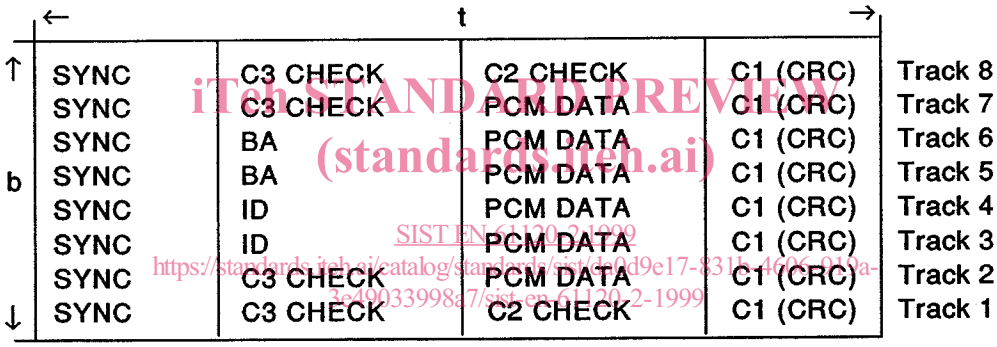
PCM samples are specified as uniformly quantified and are represented in the form of sign bit (MSB) leading.

1.2.2 *The block structure*

The following figure shows the data configuration and the contents of frames and blocks.



Frame configuration



Block configuration

Legend:

BA = Bloc address

ID = Identification data

Frame and block parameters:

- SYNC length ..... p = 16 bits
- Control word or C3 length ..... cw = 8 bits
- Data or C2 length ..... d = 320 bits
- C1 (CRC) length ..... c = 16 bits
- Frame length ..... f = 360 bits
- Block configuration ..... b = 8 frames