

INTERNATIONAL STANDARD

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60774-5

First edition
2004-04

**Helical-scan video tape cassette system
using 12,65 mm (0,5 in) magnetic tape
on type VHS –**

**Part 5:
D-VHS**

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International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HELICAL-SCAN VIDEO TAPE CASSETTE SYSTEM
USING 12,65 mm (0,5 in) MAGNETIC TAPE ON TYPE VHS –****Part 5: D-VHS****FOREWORD**

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International Standard IEC 60774-5 has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment.

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

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| CDV | Report on voting |
| 100/664/CDV | 100/748/RVC |

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

IEC 60774 consists of several parts under the general title *Helical-scan video tape cassette system using 12,65 mm (0,5 in) magnetic tape on type VHS*:

Part 1: VHS and compact VHS video cassette system

Part 2: FM audio recording

Part 3: S-VHS

Part 4: S-VHS video cassette system - ET mode

Part 5: D-VHS

The committee has decided that the contents of this publication will remain unchanged until 2007. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

IEC 60774-5:2004

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A bilingual version of this standard may be issued at a later date.

HELICAL-SCAN VIDEO TAPE CASSETTE SYSTEM USING 12,65 mm (0,5 in) MAGNETIC TAPE ON TYPE VHS –

Part 5: D-VHS

1 Scope

This part of IEC 60774 applies to the MPEG TS (Transport Stream) packet recording for helical-scan video tape cassette system using 12,65 mm magnetic tape on type VHS.

This standard specifies the cassettes, the tape, the track configuration, the data structure, the recording method and the MPEG TS format for D-VHS.

D-VHS is formatted on the basis of the VHS system, aiming for digital data recording. D-VHS basic format, which is commonly used in various types of data recording application, is specified.

D-VHS records the MPEG TS packets directly compatible with digital broadcast systems.

D-VHS has three recording modes according to the data-rate: STD (Standard), HS (High Speed) and LS (Low Speed/four types), to accommodate various digital broadcasts and needs. MPEG2 recording format for D-VHS including trick play is specified.

The pack format is specified for recording ancillary data, except the MPEG TS packets.

D-VHS MPEG format (ID: MTRM) is specified. D-VHS MPEG format is used for pre-recorded software tape for D-VHS, and self-encoding of analog video and audio signal (for example conventional TV) to MPEG TS packet.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60774-1:1994, *Helical-scan video tape cassette system using 12,65 mm (0,5 in) magnetic tape on type VHS – Part 1: VHS and compact VHS video cassette system*

IEC 60774-3:1993, *Helical-scan video tape cassette system using 12,65 mm (0,5 in) magnetic tape on type VHS – Part 3: S-VHS*

ISO/IEC 11172-3:1993, *Information technology – Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s – Part 3: Audio*

ISO/IEC 13818-1, *Information technology – Generic coding of moving pictures and associated audio information – Part 1: Systems*

ISO/IEC 13818-2, *Information technology – Generic coding of moving pictures and associated audio information – Part 2: Video*

ISO/IEC 13818-3:1998, *Information technology – Generic coding of moving pictures and associated audio information – Part 3: Audio*

ISO/IEC 13818-7:1998, *Information technology – Generic coding of moving pictures and associated audio information – Part 7: Advanced Audio Coding (AAC)*

ISO 639-2:1998, *Codes for the representation of names of languages – Part 2: Alpha-3 code*

ISO 2015:1976, *Numbering of weeks*

ISO 3166-1:1997, *Codes for the representation of names of countries and their subdivisions – Part 1: Country codes*

ISO 3901:2001, *Information and documentation – International Standard Recording Code (ISRC)*

ISO 8859-1:1997, *Information technology – 8-bit single-byte coded graphic character sets - Part 1: Latin alphabet No. 1*

ISO 13818-9:1996, *Information technology – Generic coding of moving pictures and associated audio information – Part 9: Extension for real-time interface for system decoders*

ARIB STD-B5:1996, *Ver 1.0, Data multiplex broadcasting system for the conventional television using the vertical blanking interval*

ARIB STD-B10:2004, *Ver 3.8, Service Information for Digital Broadcasting System*

ARIB STD-B24:2004, *Ver 4, Data coding system and transmission specification for digital broadcasting*

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EIA 708 B:1999, *Digital Television (DTV) closed captioning*

EN 300 468:1998, *V1.3.1, Digital Video Broadcasting (DVB) - Specification for Service Information (SI) in DVB systems*

ETR 211:1997, *Digital Video Broadcasting (DVB); Guidelines on implementation and usage of Service Information (SI)*

ETS 300 743:1997, *Digital Video Broadcasting (DVB) - Subtitling systems*

JIS X 208:1997, *7-bit and 8-bit double byte coded KANJI sets for information interchange*

PNG (Portable Network Graphic) Specification Ver1.0, W3C Rec.Oct.1996, available at <<http://www.w3.org/Graphics/PNG/>>

SMPTE 302M:2002, *Television – Mapping of AES3 Data into MPEG-2 Transport Stream*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this part of IEC 60774-5, the following terms and definitions apply.

3.1.1

absolute track number

22-bit code recorded in the ID area of the Subcode sync block. The absolute track number is counted up every track and indicates the tape absolute position

3.1.2

absolute track number support flag

SF

2-bit code recorded in the ID area of the subcode sync block. SF indicates the condition of absolute track number

3.1.3

application detail

in the case of MPEG2 mode or CTP STD mode 1, the application detail is recorded in the main header. Application detail indicates the contents of main data

3.1.4

application ID

the application ID is recorded in the format ID. The application ID provides the definitions of subcode data area and main data area

3.1.5

code word

code word in ECC

3.1.6

data-AUX

in the case of MPEG2 transport stream recording or CTP stream recording, data-AUX is the next 1 byte after the main header. 6 data-AUX from 6 subsequent sync blocks constitute the pack data

3.1.7

data detail

the data detail is recorded in the sync block information area. The contents of Data detail depend on the contents of data type

3.1.8

data type

DT

the data type is recorded in the sync block information area in the main header. The data type indicates the contents of the sync block data

3.1.9

ECC block size

indicates the size of data which constitute the product codes of main code

3.1.10

ECC block number per track

number of ECC blocks per track

3.1.11

format ID

block of ID data in the subcode sync block or main header which contains ECC block size, ECC block number per track, program mode, scanner rotation speed, recording

3.1.12

format information area

first 4 bits of the main header. The format information area contains format ID, application details, application information, etc.

3.1.13

group of pictures

GOP

layer defined in MPEG

3.1.14

ID parity

IDP

error detecting code for ID

3.1.15

index flag

indicates the start point of the index

3.1.16

inter block gap

IBG

edit gap between two data areas

3.1.17

local time stamp generator

in the case of MPEG2 mode or CTP STD mode 1, the local time stamp generator is the drum reference generator in recording and playback. Local time stamp generator provides the value of the time stamp to be recorded

3.1.18

main data sync block

sync block in main code area. One main data sync block is 112 bytes

3.1.19

main header

in the case of MPEG2 mode or CTP STD mode, the main header is the first 2 bytes of the main data area in each main data sync block and it consists of format information area and sync block information area

3.1.20

marker flag

indicates the remarkable data area

3.1.21

outer interleave

number of tracks which constitute one interleave block for the outer error correcting codes

3.1.22

pack data

contains ancillary data as specified in the pack data format