

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1 AMENDEMENT 1

Recording –

Helical-scan digital video cassette recording system using 6,35 mm magnetic tape for consumer use (525-60, 625-50, 1125-60 and 1250-50 systems) –

Part 4: Pack header table and contents

Enregistrement –

Système d'enregistrement numérique grand public vidéo à cassette à balayage hélicoïdal pour la bande magnétique de 6,35 mm (systèmes 525-60, 625-50, 1125-60 et 1250-50) –

Partie 4: Tableaux des paquets en-tête et leur contenu



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FOREWORD

This amendment has been prepared by technical area 7: Consumer electronics storage media, data structures and equipment, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

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

CDV	Report on voting
100/1552/CDV	100/1628/RVC

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

The French version of this Amendment has not been voted upon.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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- withdrawn,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

1.2 Normative references

Insert, before IEC 61880, the following new references:

IEC 61834-2:1998, *Recording – Helical-scan digital video cassette recording system using 6,35 mm magnetic tape for consumer use (525-60, 625-50, 1125-60 and 1250-50 systems) – Part 2: SD format for 525-60 and 625-50 systems*

IEC 61834-11:2008, *Recording – Helical-scan digital video cassette recording system using 6,35 mm magnetic tape for consumer use (525-60, 625-50, 1125-60 and 1250-50 systems) – Part 11: HDV format for 1080i and 720p systems*

ETS 300 468, *Specification for Service Information (SI) in DVB systems*

2 Pack header table

Replace the entire Table 1 by the following new Table 1:

Table 1 – Pack header table

UPPER LOWER	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010 to 1110	1111 SOFT MODE
	CONTROL	TITLE	CHAPTER	PART	PROGRAM	AAUX	VAUX	CAMERA	LINE	MPEG		
0000	CASSETTE ID	TOTAL TIME	TOTAL TIME	TOTAL TIME	TOTAL TIME	SOURCE	SOURCE	CONSUMER CAMERA 1	LINE HEADER	SOURCE		MAKER CODE
0001	TAPE LENGTH	REMAIN TIME	REMAIN TIME	REMAIN TIME	REMAIN TIME	SOURCE CONTROL	SOURCE CONTROL	CONSUMER CAMERA 2	Y	SOURCE CONTROL		OPTION
0010	TIMER ACT DATA	CHAPTER TOTAL NO.	CHAPTER NO.	PART NO.	REC D TIME	REC DATE	REC DATE	RSV	CR	REC DATE		OPTION
0011	TIMER ACT S/S	TIME CODE	TITLE CODE	TITLE CODE	TITLE CODE	REC TIME	REC TIME	LENS	CB	REC TIME		OPTION
0100	PR START POINT	BINARY GROUP	BINARY GROUP	BINARY GROUP	BINARY GROUP	BINARY GROUP	BINARY GROUP	GAIN	RSV	BINARY GROUP		OPTION
0101	PR START POINT	CASSETTE NO.	RSV	RSV	RSV	CLOSED CAPTION	CLOSED CAPTION	PEDESTAL	RSV	STREAM		OPTION
0110	TAG ID NO / GENRE	SOFT ID	RSV	RSV	RSV	TR	TR	GAMMA	RSV	RSV		OPTION
0111	TOPIC / PAGE HEADER	SOFT ID	RSV	RSV	RSV	RSV	TELE TEXT	DETAIL	RSV	ETN		OPTION
1000	TEXT HEADER	TEXT HEADER	TEXT HEADER	TEXT HEADER	TEXT HEADER	TEXT HEADER	TEXT HEADER	TEXT HEADER	TEXT HEADER	TEXT HEADER		OPTION
1001	TEXT	TEXT	TEXT	TEXT	TEXT	TEXT	TEXT	TEXT	TEXT	TEXT		OPTION
1010	TAG	TITLE START	CHAPTER START	PART START	PROGRAM START	AAUX START	VAUX START	RSV	LINE START	SERVICE START		OPTION
1011	TAG	TITLE START	CHAPTER START	PART START	PROGRAM START	AAUX START	VAUX START	CAMERA PRESET	LINE START	SERVICE START		OPTION
1100	TELETEXT INFO	REEL ID	RSV	RSV	RSV	RSV	MARINE / MOUNTAIN	FLARE	RSV	RSV		OPTION
1101	KEY	REEL ID	RSV	RSV	RSV	RSV	LONGITUDE / LATITUDE	SHADING	RSV	RSV		OPTION
1110	ZONE END	TITLE END	CHAPTER END	PART END	PROGRAM END	AAUX END	VAUX END	KNEE	LINE END	SERVICE END		OPTION
1111	ZONE END	TITLE END	CHAPTER END	PART END	PROGRAM END	AAUX END	VAUX END	SHUTTER	LINE END	SERVICE END		OPTION



AAUX main area



MIC main area



VAUX main area



MPEG main area



Subcode main area

Add, after Subclause 12.16, the following new Clause 13:

13 MPEG

MPEG 0

13.1 SOURCE

	MSB								LSB							
PC 0	1	0	0	1	0	0	0	0								
PC 1	SERVICE ID															
PC 2																
PC 3	SOURCE CODE		50/60		STYPE											
PC 4	TUNER CATEGORY															

This pack shall be recorded at least in the VAUX main area.

SERVICE ID

In the case of single programme recording, SERVICE ID is the same as the program_number in the corresponding program_map_section (PMT).

SOURCE CODE

SOURCE CODE defines the input source of bit stream data in combination with SERVICE ID and TUNER CATEGORY, as follows.

SOURCE CODE	SERVICE ID	TUNER CATEGORY	Input source
0 0	0001h to FFFFh	FFh	Camera
0 1	0001h to FFFFh	FFh	Line
1 0	0001h to FFFFh	FFh	Cable
1 1	0001h to FFFFh	Prescribed value	Tuner
1 1	0000h	FFh	Pre-recorded tape
1 1	FFFFh	FFh	No information

50/60

0 = 60-field system

1 = 50-field system

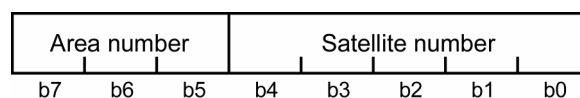
STYPE

STYPE defines a signal type of input signal in combination with the 50/60 flag as follows.

STYPE	50/60	
	0	1
00000	Not used	
00001	Reserved	
00010	Not used	
00011	Reserved	
00100	MPEG2-TS (25 Mbps mode)	
00101	MPEG2-TS (12,5 Mbps mode)	
00110	MPEG2-TS (6,25 Mbps mode)	
00111 11111	Reserved	

TUNER CATEGORY:

TUNER CATEGORY consists of the area number and the satellite number as follows.
TUNER CATEGORY = FFh is indicative of no information.

**Area number specification**

Area number	Region	Area
0 0 0	Region 1	Europe, Africa
0 0 1		
0 1 0	Region 2	North America, South America
0 1 1		
1 0 0		
1 0 1		
1 1 0	Region 3	Asia, Oceania
1 1 1		

Details of the area number are to be decided.

For region 1

Area number	Satellite number	Satellite name
0 0 0	0 0 0 0	UHF/VHF
	0 0 0 1	Reserved
	0 0 0 1 0	ASTRA A+B
	0 0 0 1 1	ASTRA C+D
	0 0 1 0 0	TELECOM (France)
	0 0 1 0 1	TELECOM-2
0 0 1	0 0 1 1 0	Reserved
	1 1 1 1 1	
	0 0 0 0	
0 0 1	0 0 0 0 1	Reserved
	1 1 1 1 1	
	0 0 0 0	

For region 2

Area number	Satellite number	Satellite name
0 1 0	0 0 0 0	UHF/VHF
	0 0 0 0 1	Reserved
0 1 1	1 1 1 1 1	Reserved
	0 0 0 0	
	0 0 0 0 1	Reserved
1 0 0		
	1 1 1 1 1	Reserved
	0 0 0 0	
1 0 1	0 0 0 0	UHF/VHF
	0 0 0 0 1	Reserved
1 0 1	1 1 1 1 1	Reserved
	0 0 0 0	
	0 0 0 0 1	Reserved
1 0 1		
	1 1 1 1 1	Reserved
	0 0 0 0	

For region 3

Area number	Satellite number	Satellite name
1 1 0	0 0 0 0	UHF/VHF
	0 0 0 0 1	BS
	0 0 0 1 0	SCC-A
	0 0 0 1 1	SCC-B
	0 0 1 0 0	JCAST-1
	0 0 1 0 1	JCAST-2
	0 0 1 1 0	Reserved
1 1 1	1 1 1 1 1	Reserved
	0 0 0 0	
	0 0 0 0 1	
1 1 1	1 1 1 1 1	Reserved
	0 0 0 0	
	0 0 0 0 1	
1 1 1	1 1 1 1 1	Reserved
	0 0 0 0	
	0 0 0 0 1	

13.2 SOURCE CONTROL

MSB										LSB									
PC 0	1	0	0	1	0	0	0	1											
PC 1	CGMS			THP				TPL		SS									
PC 2	REC ST	1	REC MODE				MR	HD/SD	AUD MODE										
PC 3	MAX BIT RATE																		
PC 4	REC END	GENRE CATEGORY																	

This pack shall be recorded at least in the VAUX main area.

CGMS:

See 9.2.

TPH:

Higher speed trick play.

TPH defines the presence or absence of the TPH stream and the number of repetitions in combination with STYPE as follows.

TPH	STYPE		
	0 0 1 0 0	0 0 1 0 1	0 0 1 1 0
0 0 0	36 times	36 times	36 times
0 0 1	18 times	18 times	18 times
0 1 0	Reserved	9 times	9 times
0 1 1	Reserved	Reserved	5 times
1 0 0	Reserved	Reserved	Reserved
1 0 1	Reserved	Reserved	Reserved
1 1 0	Reserved	Reserved	Reserved
1 1 1	No data	No data	No data

TPL:

Lower speed trick play.

TPL defines the presence or absence of the TPL stream and the number of repetitions in combination with STYPE as follows.

TPL	STYPE		
	0 0 1 0 0	0 0 1 0 1	0 0 1 1 0
0	2 times	No repetition	No repetition
1	No data	No data	No data

SS: Source and recorded situation

00b = Scrambled data and data recorded without descrambling

01b = reserved

10b = Descrambled data or originally non-scrambled data

11b = No information

REC ST: Recording start point

0 = Recording start point

1 = Not recording start point

The duration of the recording start point should be the period of recording 300 tracks in 25 Mbps mode.

REC MODE:

00b = Original

01b = Reserved

10b = Insert

11b = Invalid recording

where

Original: The video and audio areas are recorded simultaneously, including the case where the audio area is "no info" or "invalid".

Insert: The video area is recorded leaving the pre-recorded audio area as it is.

Invalid recording: The recorded video data are disregarded.

MR: Multi-service recording flag

0 = Multi-services have been recorded at the same time.

1 = Only one service has been recorded.

HD/SD:

HD/SD flag indicates the kind of video signal.

0 = SD-MPEG2 (LL or ML)

1 = HD-MPEG2 (HL or Hi-1440L)

AUD MODE:

AUD MODE indicates the kind of audio compression.

00b = MPEG2 audio layer 1 and 2

01b = AC-3 audio

Others = Reserved

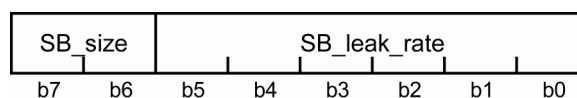
HD/SD = 1 and AUD MODE = 11b only when, HD/SD and AUD MODE are meaning No information.

HD/SD	AUD MODE	Meaning
0	0 0	SD-MPEG2 video and MPEG2 layer 1 and 2
0	0 1	SD-MPEG2 video and AC-3 audio
0	1 0	Reserved
0	1 1	Reserved
1	0 0	HD-MPEG2 video and MPEG2 layer 1 and 2
1	0 1	HD-MPEG2 video and AC-3 audio
1	1 0	Reserved
1	1 1	No information

MAX BIT RATE:

MAX BIT RATE is a maximum bit rate of the service which is defined in the short_smoothing_buffer_descriptor (see ETS 300 468).

MAX BIT RATE consists of SB_size (two bits) + SB_leak_rate (six bits)

**REC END:** Recording end point

0 = Recording end point

1 = Not recording end point

The duration of recording end point should be 1 s.

GENRE CATEGORY:

GENRE CATEGORY shows the category of the service.

The details are described in the TIMER ACT DATE pack.

MPEG 2

13.3 REC DATE

	MSB				LSB			
PC 0	1	0	0	1	0	0	1	0
PC 1	DS	TM	TENS of TIME ZONE		UNITS of TIME ZONE			
PC 2	1	1	TENS of DAY		UNITS of DAY			
PC 3	WEEK			TNMN	UNITS of MONTH			
PC 4	TENS of YEAR				UNITS of YEAR			

This pack should be recorded in the VAUX main area. The date when the service data are recorded is stored in this pack.

DS: Daylight saving time

0 = Daylight saving time

1 = Normal

REC MODE:

Thirty-minute unit of the time differential from GMT

0 = 30 min

1 = 0 min

TIME ZONE:

00 to 23 3Fh = No information

Examples:

For Tokyo

TIME ZONE = 001001b

PC1 = 11001001b GMT plus 9:00

For New York with daylight saving time

TIME ZONE = 011001b

PC1 = 01011001b GMT plus 19:00

For New Delhi, where the 30-minute unit of the time differential from GMT is adopted,

TIME ZONE = 000101b

PC1 = 10000101b GMT plus 5:30

where GMT is Greenwich Mean Time

DAY:

01 to 31 3Fh = No information

WEEK:

0 = Sunday 4 = Thursday

1 = Monday 5 = Friday

2 = Tuesday 6 = Saturday

3 = Wednesday 7 = No information

MONTH:

01 to 12 = January to December

1Fh = No information

where TNMN = Tens of month

1 = Not recording end point

YEAR:

00 to 99 FFh = No information

13.4 REC TIME

This pack should be recorded in the VAUX main area.

The time when the service data are recorded is stored based on the SMPTE/EBU time code format.

In the case of not recording the MPEG BINARY pack:

MSB					LSB			
PC 0	1	0	0	1	0	0	1	1
PC 1	1	1	TENS of FRAMES		UNITS of FRAMES			
PC 2	1	TENS of SECONDS			UNITS of SECONDS			
PC 3	1	TENS of MINUTES			UNITS of MINUTES			
PC 4	1	1	TENS of HOURS		UNITS of HOURS			

If FRAME is not used, FRAME shall be 3Fh.

In the case of recording the MPEG BINARY pack:

	MSB				LSB			
PC 0	1	0	0	1	0	0	1	1
PC 1	S2	S1	TENS of FRAMES		UNITS of FRAMES			
PC 2	S3	TENS of SECONDS			UNITS of SECONDS			
PC 3	S4	TENS of MINUTES			UNITS of MINUTES			
PC 4	S6	S5	TENS of HOURS		UNITS of HOURS			

The flags S1 to S6 shall be recorded based on the SMPTE/EBU format.

Bit number	S1	S2	S3	S4	S5	S6
VITC	14	15	35	55	74	75
LTC	10	11	27	43	58	59

MPEG 4

13.5 BINARY GROUP

	MSB	LSB
PC 0	1 0 0 1 0 1 0 0	
PC 1	BINARY GROUP 2	BINARY GROUP 1
PC 2	BINARY GROUP 4	BINARY GROUP 3
PC 3	BINARY GROUP 6	BINARY GROUP 5
PC 4	BINARY GROUP 8	BINARY GROUP 7

This pack may be recorded in the VAUX main area.

If this pack is used, the flags S1 to S6 in the MPEG REC TIME pack shall be set on the basis of the SMPTE/EBU time code format.

If this pack is not used, the NO INFO pack shall be recorded.

MPEG 5

13.6 STREAM

MSB										LSB																					
PC 0	1	0	0	1	0	1	0	1																							
PC 1	RESERVED																														
PC 2	STREAM TYPE																														
PC 3											ELEMENTARY PID																				▶
																															LSB
PC 4	RE-SERVED					PID TYPE					◀																				MSB

This pack should be recorded in the VAUX main area.

This pack is prepared to obtain PMT_PID, PCR_PID and elementary_PIDs directly without referring to PAT and PMT.

STREAM TYPE:

STREAM TYPE shows the type of the elementary stream.

STREAM TYPE is the same as the stream_type described in the corresponding program_map_section (PMT).

ELEMENTARY PID:

ELEMENTARY PID shows the PID of the packet which contains the elementary stream of STREAM TYPE.

ELEMENTARY PID is the same as the elementary_PID described in the corresponding program_map_section (PMT).

ELEMENTARY PID also indicates PMT_PID or PCR_PID in combination with PID TYPE.

PID TYPE:

PID TYPE	STREAM TYPE	ELEMENTARY PID
0 0	Stream type	Elementary_PID
0 1	Invalid	PMT_PID
1 0	Invalid	PCR_PID
1 1	Reserved	

MPEG 6

13.7 Reserved

	MSB	LSB
PC 0	1	0
PC 1		
PC 2		
PC 3		
PC 4		

This pack is reserved for future use.