Rec. ITU-R BT.1617

RECOMMENDATION ITU-R BT.1617

Format for transmission of DV compressed video, audio and data over interfaces complying with Recommendation ITU-R BT.1381

(Question ITU-R 12/6)

(2003)

The ITU Radiocommunication Assembly,

considering

a) that applications within professional television production and post-production have been identified where DV-compliant video compression can offer operational and economic advantages when used on serial digital interface (SDI)-based operations;

b) that an implementation exists based on a sampling raster of 4:2:0 at a data rate of 25 Mbit/s based on IEC 61834-2 known as DVCAM;

c) that the audio, data and compressed video elements in DV-compliant systems are formatted differently compared to DV-based systems;

d) that the formatting is optimized for interconnection between DV-compliant VCRs and disk systems;

e) that transfer speeds up to five times faster than real-time can be achieved;

f) that agile decoders are being developed to integrate data streams based on DVCAM into DV-based production,

recommends

1 that for applications in professional television production and post-production employing DV compression, the parameters given in the SMPTE 322M-1999 – Format for Transmission of DV Compressed Video, Audio and Data Over a Serial Data Transport Interface, be used.

Summary of SMPTE Standard 322M-1999

This Standard specifies the data structure and the transmission format of DV compressed video, audio and data over a serial data transport interface (SDTI) as defined by Recommendation ITU-R BT.1381 and SMPTE 305M. The Standard is a combination of video, audio, sub-code and control data optimized for the connection between DV-compliant VCRs and disk systems. It provides for high-speed data stream transfer up to five times faster than real-time. The video, audio and sub-code data comply with IEC 61834-2 for both 525/60 and 625/50 systems. The bit stream consists of 77-byte digital interface (DIF) data blocks, which are common to other DV-based signals. The DIF blocks are mapped onto SDTI using a frame-bounded algorithm preserving ease of manipulating the video and audio data.

NOTE 1 – SMPTE Standard 322M-1999 is given in Annex 1 and Standard 305M can be found at: <u>http://ties.itu.int/u/itu-r/ede/rsg6/SMPTE/</u>. SMPTE Standard 322M-1999 and its summary refer to version 1999 only, which is the version approved, by Administrations of Member States of the ITU in application of Resolution ITU-R 1-3 on 03-05-03. By agreement between ITU and SMPTE, this Version was provided and authorized for use by SMPTE and accepted by ITU-R for inclusion in this Recommandation. Any subsequent version of SMPTE Standard 322M, which has not been accepted and approved by Radiocommunication Study Group 6 is not part of this Recommendation. For subsequent versions of SMPTE documents, the reader should consult the SMPTE website: <u>http://www.smpte.org/</u>.

SMPTE STANDARD

forTelevision — Form at forTransm ission ofDV Compressed Video, Audio and Data Overa SerialData Transport Interface



SM PTE 322M -1999

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1 Scope

This standard specifies the data structure and the transm ission form at of DV compressed video, audio, and data over a serial data transport interface (SDTI [SM PTE 305M]). The standard is a combination of video, audio, subcode, and control data optim ized for the connection between DV-compliant VCRs and disk system s. Itensures high-speed data stream transferup to five times faster than realtime. The video, audio, and 625/50 system s. The bitstream consists of 77 byte D F data blocks, which are common to other DV based signals. The D F blocks are m apped onto SDTI using a fram e-bounded algorithm preserving ease of m anjulating the video and audio data.

The layers of signal processing and related standards are shown in figure 1.

NOTE -Fordescriptions of the SDTI, refer to SM PTE 305M, and fordescriptions of view, and subcode data, refer to EC 61834-2. The standard corresponds to data type [241_h] registered as DVCAM -1 in SM PTE 305M.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to Page 1 of 13 pages

revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recented iton of the standards indicated bebw.

SM PTE 305M -1998, Television — SerialD ata Transport Interface

EC 61834-2 (1998-08), Recording — HelicalScan DigitalVideo Cassette Recording System Using 6,35 mm Magnetic Tape forConsumerUse (525-60,625-50, 1125-60 and 1250-50 Systems) — Part 2:SD Form at for525-60 and 625-50 System s

3 SDTIheaderdata

The SDTIheaderdata as specified in SMPTE 305M shall contain the parameters shown in table 1, and shallbe repeated on every line. The SDTIheaderdata structure is as shown in figure 2.

4 Data structure

The following clause describes the basic data structure and the system parameters of the bistream. The data structure of the SDTIpaybad is shown in figure 3. The data block consists of a control data block and five vertical data slots, in which one compressed video stream shall be contained. The empty space and reserved area shall be set to all zeros (200_h) as default value.

4.1 Data block

The control data block and the DF data shall be contained in B0 (LSB) through B7 (8 bits).B8 shallbe a reserved data bit for future expansion, which is norm ally set to zero.B9 shallbe the com plem ent of B8.

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Approved December7,1999

Digitization		
Compression	\rightarrow	IEC-61834-2
DIF Packetization		
DIF Sequence(Multiplex)		Proposed Standard
SDTI Adaptation		
Data Formatting	├ ──→	SMPTE 305M
Serialization	┝──→	SMPTE 259M

Figure 1 - Layers of signal processing and related standards

	Table	1 —Headerdata p	packet
Γ	Param eters	Length	Value
	ADF	3 words	[000 _h][3FF _h][3FF _h]
	DID	1 word	[140 _h]
	SDD	1 word	[101 _h]
	DC	1 word	[22E _h]
	Line num ber	2 words	—
	Line num berCRC	2 words	—
	Code	4 bits	[1 _h]
	AAI	4 bits	—
	Destination address	16 words	
	Source address	16 words	
	B lock type	1 word	[1C1 _h]
	CRC flag	1 word	[101 _h]
	Data extension flag	1 word	[200 _h]
	Reserved data	4 words	[200 _h][200 _h][200 _h][200 _h]
	HeaderCRC	2 words	

1 word





(Ancillary data flag)

СS

Figure 2 – SDTIheaderdata structure

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5



Figure 3 – Data structure

42 Data block header

The data bbck header, as specified in SM PTE 305M, shall contain the parameters shown in table 2. The data bbck headershallexiston line 12 for the 525/60 system or line 8 for the 625/50 system (refer to figures 4 and 7).

Table 2 – Data block header

Parameters	Length	Value
Separator Data type	1 word 1 word	[309h] [241h] [24720;] (525 (60 grater))
w oracount	4 w 0105	[D8F50h] (625/50 system)

4.3 Controldata block

Followed by the data block header, a control data block shall be inserted (in m ediately after the SDTI data block header). The control data block shall consist of 10 words (see figure 2), and the bits are allocated as shown in table 3. The control data block has some a meas of commonality with the header section specified in EC 61834-2, and also provides specific data required for data transfer between storage devices.

Byte 1: Indicates the data type (secondary).

Byte 2: Indicates the transfer conditions (transfer speed, bcked/unbcked, audio and video validity).

Bytes 3-10: Common information to EC 61834-2.

431 Secondary data type

The controldata bbck and the data sbts are preceded with a secondary data type (1 word), with which the entire data bbck is defined. The initial code shall be setto allzero, and the receiver shall attempt to decode the data as soon as the desired secondary data type is detected.

Value	Description
0000 0000	Initialcode
0000 0001	Data bbck as defined
0000 0010	
	Reserved
1111 1111	

	MSB							LSB
Byte 1				Secondary	r data type			
Btye 2	0 (R E S E	0 ERVE)	V ID E O IN VAL ID	AUDIO INVALID	LOCK	TR	TRANSFER MODE	
Byte 3	V 50/60	V STYPE	A 50/60	A STYPE	AP3	AP2	AP1	APT
Byte 4	FF	FS	V REC MODE	BCS	SYS		D IS P	
Byte 5	A -1 LF	A C H	-1 I N	A -1 PA		A AUDIO	-1 MODE	
Byte 6	A-1 REC ST	A-1 REC END	A -1 REC MODE	A -1 EF	A SM	-1 I P	A Q	-1 U
Byte 7	A -1 D R F	A-1 SPEED						
Byte 8	A -2 LF	A C H	-2 H N	A -2 PA		A AUDIO	-2 MODE	
Byte 9	A-2 REC ST	A-2 REC END	A-2 REC MODE	A -2 E F	A -2 SM P A -2 QU		QU	
Byte 10	A-2 DRF				A-2 SPEED			

Table 3 - Controldata block structure

432 Transferm ode

The transfer mode specifies the desired transfer speed of the compressed video stream. The following transfer speed can be selected:

Value	Description
000	Reserved
001	Normalspeed (1X)
010	2X speed
011	3X speed
100	4X speed
101	5X speed
110	Reserved
111	Reserved

LOCK: Indicates whether the VCR is being servo boked ornotduring the data transfer.

Value	<u>Description</u>
0	VCR servo unbcked
1	VCR servo bcked

AUD D NVALD: Indicates the validity of the audio data.W hen the AUD D NVALD flag is active (1), the receiver shall not attem ptto decode the audio data.

Value Degeriation	
	Sbti
0 Audio data valid	Sbte
1 Audio data invalid	Sbt

VDEO NVALD: Indicates the validity of the video data. When the VDEO NVALD flag is active (1), the receivershallnotattem ptto decode the video data.

Value	<u>Description</u>			
0	Video data valid			
1	Video data invalid			

43.6 Common parameters

O ther parameters contained in bytes 3 to 10 are common information to the international standard ($\mathbb{E}C$ 61834).

4.4 Data sbt

Each data sbtconsists of 280 words, and shallstart from the word number address shown bebw. The data shallbe contained in the first 256 bytes, and the last 24 bytes are reserved for future extensions.

W ord address	Number
Sbt1	16
Sbt2	296
Sbt3	576
Sbt4	856
Sbt5	1136

4.5 Endcode

The endcode as specified in SM PTE 305M shallbe presentatthe word num beraddress 1416 on line 525 for the 525/60 system , or line 625 for the 625/50 system .

<u>Param eters</u>	Length	Value
Encode	1 word	[30A _h]

5 Transm ission Form at

The following clause describes the overall transm ission form at and the detailed data structure of the compressed video stream.

5.1 Digital interface form at (DF)

The data structure of the video, audio, and subcode in the DF blocks shallbe as specified in EC 61834-2. However, the 3-byte D shallnot be carried over the interface (see figures 4,5, and 6). The DF blocks shall be m apped onto the data slots using a fiam e-bounded algorithm, which is different in sequence from the one specified in EC 61834-2.

5.2 525/60 system

The data block shall be transmitted from line 12 through line 525, provided that valid data shall not existon lines 9 -11 and 272 -274 for the 525/60 system as shown in figure 7. The areas in lines 247-271 and 510 -8 are reserved for future extensions.

521 Video sections

The video sections are contained in lines 12 -223 and 275 -486 (see figure 8):

(n, V0) - (n, V134); n = 0 to 9

522 SC/VAUX sections

The SC/VAUX sections are contained in lines 224 - 231 and 487 - 494 (see figure 9):

(n, SC0), (n, SC1), n, VA0), (n, VA1), (n, VA2);n = 0 to 9

523 Audio AAUX sections

The audio/AAUX sections are contained in lines 232 - 246 and 495 - 509 (see figure 9):

(n, A0) - (n, A8); n = 0 to 9

5.3 625/50 system

The data block shallbe transm itted from line 8 through line 625, provided that valid data shall not exist on lines 5 - 7 and 318 - 320 for the 625/50 system as shown in figure 10. The areas in lines 289 - 317 and 602 - 4 are reserved for future extensions.

5.3.1 Video sections

The video sections are contained in lines 8 - 261 and 321 - 574 (see figure 11):

(n, V0) - (n, V134); n = 0 to 11

532 SC/VAUX sections

The SC/VAUX sections are contained in lines 262 - 271 and 575 - 584 (see figure 12):

(n, SC0), (n, SC1), (n, VA0), (n, VA1), (n, VA2);n = 0 to 11

533 Audio AAUX sections

The audio/AAUX sections are contained in lines 272 - 288 and 585 - 601 (see figure 12):

$$(n, A0) - (n, A8); n = 0 \text{ to } 11$$



Figure 6 – Data in the audio AAUX sections

		4	4		▲- ⊻××	
Data	Reserved	Reserved	Reserved	Reserved	Reserved	T
Header (6words)			Data=200h		· · · · · · · · · · · · · · · · · · ·	
Control Data block (10words)	Compressed Video Data1 450X80 =36000 Words (141 Lines)	RE				
	Compressed Video Data2-1 225X80 =18000 Words (71 Lines)	S E R				
	SC/VAUX 25X80=2000 (8 Lines)	V E				
	Audio/AAUX 45X80=3600 (15 Lines)	D				
	Reserved	Reserved	Reserved	Reserved	Reserved	
			Data=200h			
	Compressed Video Data2-2 225X80 =18000 Words (71 Lines)	R				
	Compressed Video Data3 450X80 =36000 Words (141 Lines)	E S E R V				
	SC/VAUX 25X80=2000 (8 Lines)	E				
	Audio/AAUX 45X80=3600 (15 Lines)					
	Reserved	Reserved	Reserved	Reserved	Reserved]

Figure 7 - Transm ission form at for 525/60 system

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e mber	4		256			•
12	(0. V0)		(0, V1)	- T	(0. V2)	(0. V3)
13	(0, V3)	(0, V ²	4)	· · · · I · · · ·	(0, V5)	(0, V6)
14	(0, V6)	(0, V7)		(0, V8)	(0, V9)
54	(0, V131)	(0, V	132)	(1), V133)	(0, V134)
55	(0, V134)	(1, V0)		(1, V1)		(1, V2)
56	(1, V2)	(1, V3)		(1, V4)	I	(1, V5)
96	(1, V130) ((1, V131)	(1	, V132)		(1, V133)
97	(1, V133) (1, V134	<u>+)</u>	(2, V0)		(2,	, V1)
98	(2, V2)		(2, V3)		(2, V4)	(2, V5)
138	(2, V130)		(2, V131)		(2, V132)	(2, V133)
139	(2, V133)	(2, V1	34)	(3, V0)	(3, V1)
40	(3, V1)	(3, V2)		(3, V3)		(3, V4)
151	(3, V39) (3, V40)	(3, V41)		(3, 1	V42)
152	(3, V43)		(3, V44)		Invalid Data	96words)
153	(3, V45)		(3, V46)		(3, V47)	(3, V48)
180	(3, V131)	(3, V132)		(3, V133)		(3, V134)
181	(3, V134)	(4, V0)		(4, V1)		(4, V2)
	(4, V2) (4, V3)	(4, V4)		(4,	V5)
182						
182 222	(4, V130] (4, V13 ⁻	1) [(4, V132)		(4, \	/133)
182 222 223	(4, V130) (4, V13 ⁷ (4, V134)	1)	(4, V132)	Invalid Data(1	(4, \ 76words)	/133)
182 222 223 275 276 277	(4, V130) (4, V134) (5, V0) (5, V3) (5, V6)	1)	(4, V132) (5, V1) (4)	Invalid Data(1	(4, \ 76words) (5, V2) 5, V5)	/133) [(5, V3) [(5, V6) (5, V9)
182 222 223 275 276 277	(4, V130) (4, V134) (5, V0) (5, V3) (5, V6) (5, V131)	1)	(4, V132) (5, V1) (4)	Invalid Data(1	(4, \ 76words) (5, V2) 5, V5) (V133)	/133) (5, V3) (5, V6) (5, V9) (5, V134)
182 222 223 275 276 277 316 317	(4, V130] (4, V133 (4, V134) (5, V0) (5, V3) (5, V6) (5, V131) (5, V134)	1)	(4, V132) (5, V1) (4) 32)	Invalid Data(1 (5, V8) (5, V8) (5, V1)	(4, \ 76words) (5, V2) 5, V5) V133)	/133) (5, V3) (5, V6) (5, V9) (5, V134) (6, V2)
182 222 223 275 276 277 316 317 318	(4, V130] (4, V13 ⁻¹ (4, V134) (5, V0) (5, V3) (5, V131) (5, V131) (5, V134) (6, V2)	1) (5, V1 (5, V1 (5, V1 (6, V0) (6, V3)	(4, V132) (5, V1) (4) 32)	Invalid Data(1 (((5, V8) (6, V1) (6, V4)	(4, \ 76words) (5, V2) 5, V5) V133)	/133) (5, V3) (5, V9) (5, V9) (5, V134) (6, V2) (6, V5)
182 222 223 275 276 277 316 317 318 344	(4, V130] (4, V137 (4, V134) (5, V0) (5, V3) (5, V131) (5, V131) (5, V134) (6, V2) (6, V85) (6, V86)	1) (5, V7) (5, V7) (6, V0) (6, V3)	(4, V132) (5, V1) (4) 32) (6, V87)	(5, V8) (6, V1) (6, V4)	(4, \ 76words) 5, V5) V133) (/133) (5, V3) (5, V6) (5, V9) (5, V134) (6, V2) (6, V5) 6, V88)
182 222 223 275 276 277 316 317 318 344 345	(4, V130] (4, V134) (4, V134) (5, V0) (5, V3) (5, V131) (5, V134) (6, V2) (6, V85) (6, V89)	1) (5, V7) (5, V7) (6, V0) (6, V3)	(4, V132) (5, V1) /4) 32) (6, V87)	Invalid Data(1 ((5, V8) (5, V1) (6, V4) Invalid Data(1	(4, \ 76words) 5, V5) V133) V133) (76words)	/133) (5, V3) (5, V6) (5, V9) (5, V134) (6, V2) (6, V5) 6, V88)
182 222 223 275 276 277 316 317 318 344 345 346	(4, V130] (4, V13 ⁻¹ (4, V134) (5, V0) (5, V3) (5, V131) (5, V134) (6, V2) (6, V85) (6, V89) (6, V90)	1) (5, V7) (5, V7) (6, V0) (6, V3)	(4, V132) (5, V1) (4) 32) (6, V87) (6, V91)	Invalid Data(1 (5, V8) (5, (6, V1) (6, V4) Invalid Data(1	(4, \ 76words) 5, V5) V133) V133) (76words) (6, V92)	/133) [(5, V3)] [(5, V6) (5, V9) [(5, V134) (6, V2) (6, V5) 6, V88) [(6, V93)
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182 2222 223 275 276 316 317 318 344 345 346 359 360 361 401 402 403 4443 4445 485	(4, V130] (4, V133) (4, V134) (4, V134) (5, V0) (5, V3) (5, V131) (5, V131) (5, V134) (6, V2) (6, V85) (6, V89) (6, V131) (7, V0) (7, V131) (7, V131) (7, V134) (8, V2) (8, V130) (8, V133) (9, V1) (9, V130)	1) 1) (5, V7) (5, V7) (6, V0) (6, V3) (6, V3) (6, V3) (6, V3) (6, V3) (6, V3) (6, V3) (6, V3) (6, V3) (6, V3) (7, V132) (8, V132) (8, V131) (8, V134) (9, V13	(4, V132) (5, V1) (4) 32) (6, V87) (6, V91) (6, V91) (7, V1) (7, V132) (0) (7, V132) (9, V3) (9, V131)	Invalid Data(1 ((5, V8) (5, V8) (6, V1) (6, V4) Invalid Data(1 (7, V4) (7, V133) (7, V133) (7, V133) (7, V132) (7, V0) (7, V0) (7, V0)	(4, \ 76words) 5, V5) 5, V5) V133) (6, V92) (6, V92) (7, V5) (7, V133) (8, V1) (8, V1) (9, (9,)	/133) (5, V3) (5, V9) (5, V9) (5, V134) (6, V2) (6, V5) (6, V134) (6, V33) (6, V134) (7, V134) (7, V134) (8, V2) (8, V2) (8, V133) (9, V1) V4) V132)

Figure 8 -Video sections for 525/60 system

LIIIG	4		280			
Number	256					
						◀ — ▶
224	(0, SC0)	(0, S	C1)	(0 VA0)	1/0 VA1	
225	(0, VA1)	(0, VA2)		(1. SC0)	(1, SC1)	R
226	(1, SC1)	(1, VA0)	(1. VA1	$\overline{)}$	(1, VA2)	E
227	(1, VA2)	(2. SC0)	(2. SC1)	<u></u>	(2 VA0)	о Б
228	(2. VA0) (2. V	/A1)	(2, VA2)		3. SC0)	R
229	(3, SC1)	(3, VA(0) (0	(3, VA1)	(3. VA2)	v
230	(3, VA2)	(4, SC0)	<u> </u>	(4. SC1)	(4, VA0)	Ē
231	(4, VA0)	(4, VA1)	(4, VA2	2)	Invalid Data/48words)	D
232	(0, A0)	(0, A	(1)	(0, A2)	(0, A3)	
233	(0, A3)	(0, A4)		(0, A5)	(0, A6)	
234	(0, A6)	(0, A7)	(0, A8	3)	(1, A0)	
235	(1, A0)	(1, A1)	(1, A2)	·	(1, A3)	
236	(1, A3) (1, A	A4)	(1, A5)	1 (1	A6)	R
237	(1, A7)	(1, A	8)	(2, A0)	(2, A1)	E
238	(2, A1)	(2, A2)		(2, A3)	(2. A4)	S
239	(2, A4)	(2, A5)	(2, A6	3)	(2, A7)	E
240	(2, A7)	(2, A8)	(3, A0)	<u> </u>	(3, A1)	R
241	(3, A1) (3,	A2)	(3, A3)	(3, A4)	
242	(3, A5)	(3, Af	6)	(3, A7)	(3, A8)	
243	(3, A8)	(4, A0)		(4, A1)	(4, A2)	U
244	(4, A2)	(4, A3)	(4, A4	, () ((4, A5)	
245	(4, A5)	(4, A6)	(4, A7)	······	(4, A8)	
246	(4, A8)	Invali	d Data(240words)			
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	4		280			
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487	(5. SC0)		280 56 C1)	(5 VA0)		24 ×
4 87 488	(5, SC0) (5, VA1)		280 56 C1)	(5, VA0) (6, SC0)	► [(5, VA1)	R F
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487 488 489 490	(5, SC0) (5, VA1) (6, SC1) (6, VA2)	25 (5, \$6 (5, VA2) (6, VA0) (7, \$C0)	280 56 C1) (6, VA1) (7, SC1)	(5, VA0) (6, SC0)	(6, VA1) (6, SC1) (6, VA2) (7, VA0)	R E S E
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487 488 489 490 491 492	(5, SC0) (5, VA1) (6, SC1) (7, VA2) (7, VA0] (7, VA0] (7, VA0]	25 (5, \$42) (6, VA0) (7, \$C0) (7, \$C0) (8, VA0)	280 56 C1) (6, VA1) (7, SC1) (7, VA2)))	(5, VA0) (6, SC0) (6, SC0) (6, SC0) (6, SCA0) (6, VA1)	(5, VA1) (6, SC1) (6, VA2) (7, VA0) 3, SC0) [(8, VA2]	R E S E R V
487 488 489 490 491 492 493	(5, SC0) (5, VA1) (6, SC1) (7, VA2) (7, VA0] (7, VA0] (7, VA0] (8, SC1) (8, VA2)	25 (5, \$i (5, VA2) (6, VA0) (7, \$C0) (7, \$C0) (8, VA0 (9, \$C0)	280 66 C1) (6, VA1) (7, SC1) (7, VA2))) (7, VA2)	(5, VA0) (6, SC0) (6, SC0) (6, SC0) (6, SC1) (7, SC1)	(5, VA1) (6, SC1) (6, VA2) (7, VA0) 3, SC0) [(8, VA2) [(8, VA2) [(9, VA0)	R E S E R V E
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Figure 9 –SC/VAUX and audio/AAUX sections for 525/60 system

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	280	⁶ ⊨ 280 ►	280	280	280	< 280 ■	▶ <u>22</u>
Τ	Data	Reserved	Reserved	Reserved	Reserved	Reserved	t
	Header (6words)			Data=200h			<u> </u>
5	Control Data block (10words)	Compressed Video Data1 540X80 =43200 Words (169 Lines)	R				
4		Compressed Video Data2-1 270X80 =21600 Words (85 Lines)	S S R				
		SC/VAUX 30X80=2400 (10 Lines)	V E				
) :		Audio/AAUX 54X80=4320 (17 Lines)]				
R		Reserved	Reserved	Reserved	Reserved	Reserved	-
			Data=200b				
		Compressed Video Data2-2 270X80 =21600 Words (85 Lines)	F				
		Compressed Video Data3 540X80 =43200 Words (169 Lines)	E F				
		SC/VAUX 30X80=2400 (10 Lines)	E				
		Audio/AAUX 54X80=4320 (17 Lines)					
		Reserved	Reserved	Reserved	Reserved	Reserved	
		48.01 /	071.01	20 01-1	dh Clat	sth Que	₽

End Code

Figure 10 - Transm ission form at for 625/50 system

12

Line			280					
Number	r <u>₹256</u>							
0	(0, V0)	I	(0 V1)	(0 \	2) [(0.\/3)			
9	(0, V3)	(0, V4)	(0, 1)	(0, V5)	(0, V6)			
10	(0, V6)	(0, V7)		(0, V8)	(0, V9)			
	(0.)((0.))							
49	(0, V131)	(0, V13	52)	(0, V133)	(0, V134)			
50 51	(0, V134) (1, V2)	(1, V0)	(1,)	(1, V1)	(1, V2)	R		
51		(() ()		,	(1, 1, 0)	_		
91	(1, V130)	(1, V131)	(1, V1	(1, V132) (1, V133)				
92	(1, V133) (1, V1	34)	(2, V0)	(2.)	(2, V1)	S		
93	(Z, VZ)		(2, V3)	(2, \	/4) [(2, V5)	-		
133	(2, V130)	(2	2, V131)	(2, V13	2) (2. V133)	E		
134	(2, V133)	(2, V134	l)	(3, V0)	(3, V1)	R		
135	(3, V1)	(3, V2)		(3, V3)	(3, V4)			
	(2.)(120)	(2) (420)		/2 \/424\	(2) (420)	V		
175	(3, V129) (3, V132)	(3, V130) (3, V133)	(3. V13	(3, V (31) (4) Inv	(3, VT32) (alid Data(64words)	Е		
170	(4, V0)		(4, V1)	(4, V2)	(4, V3)	-		
						D		
218	(4, V131)	(4, V13	32)	(4, V133)	(4, V134)			
219	(4, V134)	(5, V0)	(5.)	(5, V1)	(5, V2)			
220	(3, VZ)	(0, V 3)	(0, 1	(4)	(5, V5)			
260	(5, V130)	(5, V131)	(5, V1	32)	(5, V133)			
261	(5, V133) (5, V	134)	Inva	lid Data(160words)				
321 322	(6, V0) (6, V3)	(6, V	(6, V1) 4)	(6, V2) (6, V5)	(6, V3) (6, V6)			
323	(6, V6)	(6, V7)		(6, V8)	(6, V9)			
262	(6 V131)	(6 V132)	(6 V133)	(6 V134)			
363	(6, V134)	(7, V0)	/ [(7, V1)	(7, V2)	-		
364	(7, V2)	(7, V3)	(7, V	4)	(7, V5)	ĸ		
	(7.)(120)	(7.)(424)	(7.)/4	20)	(7.)(100)	Е		
404	(7, V130) [7 V133] (7 V1	(7, VISI) (34)	<u> (7, V1.</u>	alid Data(160words)	(7, 133)	c		
405 406	(8, V0) (8, V1) (8, V2) (8, V3)							
						Е		
447	(7, V131)	(8, V13)	2)	(8, V133)	(8, V134)			
448	(8, V134)	(9, VU) (9, V3)		<u>(9, V1)</u> 4) T	(9, V2)	ĸ		
449		(0, 10)	(9, V		(3, 13)	v		
489	(9, V131)	(9, V132)	(9, V1	33)	(9, V134)	-		
490	(9, V134] (10	, V0)	(10, V1)		(10, V2)	-		
491	(10, V3)		(10, V4)	(10, \	/5) (10, V6)	D		
524	(10 V130)	1 73	0 V131)	(10.1/13	2) //10 //133			
532	(10, V133)	(10, V134	l)	(10, V (3)) (11, V0)	(11, V1)			
533	(11, V1)	(11, V2)		(11, V3)	(11, V4)			
	(44.)(400)	(44.)(400)			(44.)(100)			
573	(11, V129) (11, V132)	(11, V130)		(11, V131) 34) Inva	L (11, V132)			
D/4		(11, 1100)	(II, VI					

Figure 11 -Video sections for 625/50 system

Page 11 of 13 pages

lino	280							
Number	256							
	•							
262	(0, SC0)		(0, SC	(1)	(0, VA0) (0 VA1		
263	(0, VA1)		(0, VA2)	<u> </u>	(1, SC0)	(1. SC1)	_	
264	(1. SC1) T	(1. VA	0)	(1	VA1)	(1 VA2)	ĸ	
204	(1 VA2)	(2 SC0)		(2 SC1)		(2 \/40)	E	
205	(2 \/A01 /2	<u>(2,000)</u>		2 1/42)	<u> </u>	(2, 00)	S	
200	(2 501)		(3 \/A0)		(2.)//		E	
267	(3, 001)	L	(3, 10)		(3, VA (4, CC4)		R	
268	$(3, \sqrt{2})$	(4.)(6.4	(4, 300)	<i>(4</i>		(4, VAU)	V	
269	(4, VAU)	(4, VA)	<u>, </u>	L (4	, VAZ)		E	
270				(5, VAU)	Data (100 mile)	(5, VA1)	D	
271	(5, VAT) (5,	VAZ)		Invalid	Data(160words)			
272	(0, A0)		(0, A1)		(0, A2)	(0, A3)		
273	(U, A3)		(0, A4)		(0, A5)	(0, A6)		
274	(0, A6)	(0, A)	^{')}	(0, A8)	(1, A0)		
275	(1, A0)	(1, A1)		(1, A2)		(1, A 3)		
276	(1, A3) (1	, A4)	(1, A5)		(1, A6)		
277	(1, A7)		(1, A8)) [(2, A0) (2,A1)	R	
278	(2, A1)		(2, A2)		(2, A3)	(2, A4)	F	
279	(2, A4)	(2, A	5)	(2, A6)	(2, A7)	C C	
280	(2, A7)	(2, A8)		(3, A0)		(3, A1)	F	
281	(3, A1) (3	3, A2)		(3, A3)		(3, A4)	P	
282	(3, A5)		(3, A6)	T	(3, A7)	(3. 48)	Ň	
283	(3, A8)		(4, A0)		(4, A1)	(4 A2)	F	
284	(4, A2)	(4. A	3)	1 7	4 A4)	(4 A5)		
295	(4, A5)	(4, A6)		(4 A7)		(4 A8)	U	
200	(4, A8) (5	5 A0)		(5 A1)		5 42)		
200	(5 A3)		(5 44)	(0,711)	(5 A5) (5 46)		
207	(5 46)		(5 A7)		(5 48)	/ (0, A0)		
200	(0,710)				(0, 70)	invaliu(J2woru		
676	(6 SCO)		16 50	1	(6 \VA0			
5/5	(0, 000) (6 \/A1)	I	(0, 30 (6, 1/42)					
5/6		7.1/4	$(0, \sqrt{2})$	77	(7, 300)		R	
5//			<u>, , , , , , , , , , , , , , , , , , , </u>			$(7, \sqrt{2})$	E	
5/8		(0, 300)		(0, 301)	<u> </u>	(0, VAU)	S	
5/9		, vai)		<u>o, vr.z)</u> T			E	
580		I	(9, VAU)		(9, VA	(9, VA2)	R	
581		(10.)(0	1)			(10, VAU)	V	
582		(10, VA	<u></u>		<u>u, vaz)</u>		E	
583				(11, VAU)		(11, VA1)	D	
584		VAZ)	1	Invai	d Data (160words)	1 (6.10)		
585	(0, AU)		(0, A1)		(0, A2)	(6, A3)		
586	(6, A3)		(6, A4)		(6, A5)	(6, A6)		
587	(6, A6)	(6, A/	2	(5, A8)	(7, A0)		
588	(7, A0)	(7, A1)		(7, A2)		(7, A3)		
589	(7, A3) (7	(, A4)	(7, A5)		(7, A6)		
590	(7, A7)		(7, A8)		(8, A0) (8, A1)	R	
591	(8, A1)		(8, A2)		(8, A3)	(8, A4)	E	
592	(8, A4)	(8, A5	5)	(1	8, A6)	(8, A7)	S	
593	(8, A7)	(8, A8)		(9, A0)		(9, A1)	E	
594	(9, A1) (9	9, A2)		(9, A3)		(9, A4)	R	
595	(9, A5)		(9, A6)		(9, A7)	(9, A8)	V	
596	(9, A8)		(10, A0)		(10, A1)	(10, A2)	E	
597	(10, A2)	(10, /	A3)	(10, A4)	(10, A5)	D	
598	(10, A5)	(10, A6)		(10, A7) / /	(10, A8)		
599	(10, A8) (1	1, A0)		(11, A1)	(1	1, A2)		
600	(11, A3)		· (11, A4) 1	(11. A	5) I (11, A6		
601	(11, A6)		(11 A7)	·L	(11 A8)	Invalid/32word		

Figure 12 -SC/VAUX and audio/AAUX sections for 625/50 system

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Annex A (informative) Bibliography

ANSI/SMPTE 259M -1997, Television — 10-Bit 4:2:2 Com ponent and 4fsc Composite DigitalSignals — SerialDigital Interface

SM PTE RP 168-1993, Definition of Vertical IntervalSw itching Point for Synchronous Video Sw itching ITU-R BT.656-3, Interface for Digital Component Video Signals in 525-Line and 625-Line Television System s Operating at the 4:2:2 Levelof Recommendation ITU-R BT.601

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