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SMPTE STANDARD

for Television —

Type D-11 Data Stream and AES3 Data Mapping over SDTI



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1 Scope

This standard specifies the mapping of type D-11 compressed picture data stream into the SDTI payload area (SMPTE 305.2M) together with the mapping of four channels of AES3 data and time code data into H-ANC packets. Type D-11 compressed picture data stream mapping is defined for source coded picture rates of 24/1.001/P, 24/P, 25/P, 50-I, 30/1.001/P, and 60/1.001. For the transmission of compressed picture data coded at source picture rates of 25/P and 50/I, the SDTI interface operates at a frame rate of 25 Hz. For the transmission of compressed picture data coded at source picture rates of 30/1.001P and 60/1.001I, the SDTI interface operates at a frame rate of 30/1.001 Hz.

The transmission of compressed picture data coded at the source picture rates of 24/1.001/P and 24/P require the SDTI interface to operate at frame rates of 24/1.001 Hz and 24 Hz with the parameters defined in normative annex A and annex B of this standard.

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 revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below.

AES3-1992, Digital Audio Engineering — Serial Transmission Format for Two-Channel Linearly Represented Digital Audio Data

ANSI/SMPTE 259M-1997, Television — 10-Bit 4:2:2 Component and $4f_{sc}$ Composite Digital Signals — Serial Digital Interface

ANSI/SMPTE 272M-1994, Television — Formatting AES/EBU Audio and Auxiliary Data into Digital Video Ancillary Data Space

SMPTE 291M-1998, Television — Auxiliary Data Packet and Space Formatting

SMPTE 305.2M-2000, Television — Serial Data Transport Interface (SDTI)

SMPTE 367M-2002, Television — Type D-11 Picture Compression and Data Stream Format

SMPTE RP 165-1994, Error Detection Checkwords and Status Flags for Use in Bit-Serial Digital Interfaces for Television

SMPTE RP 188-1999, Transmission of Time Code and Control Code in the Ancillary Data Space of a Digital Television Data Stream

3 General specifications

This standard specifies the mapping of the type D-11 data stream packets over SMPTE 305.2M (SDTI). The type D-11 data stream comprises packets of basic blocks containing compressed picture data and auxiliary picture data as specified in SMPTE 367M.

Four channels of 24-bit AES3 data are optionally mapped into the H-ANC space of the interface according to ANSI/SMPTE 272M. In addition, VITC may also be mapped into the H-ANC space.

The type D-11 data stream packets are grouped into six equal data segments of which the first three data segments are mapped onto the first field of the SDTI and the last three data segments are mapped onto the second field of the SDTI, as shown in figure 1 and table 1.

Figure 1 also includes the optional four channels of 24-bit AES3 data mapped into the H-ANC space. VITC data may also be mapped into the H-ANC space.

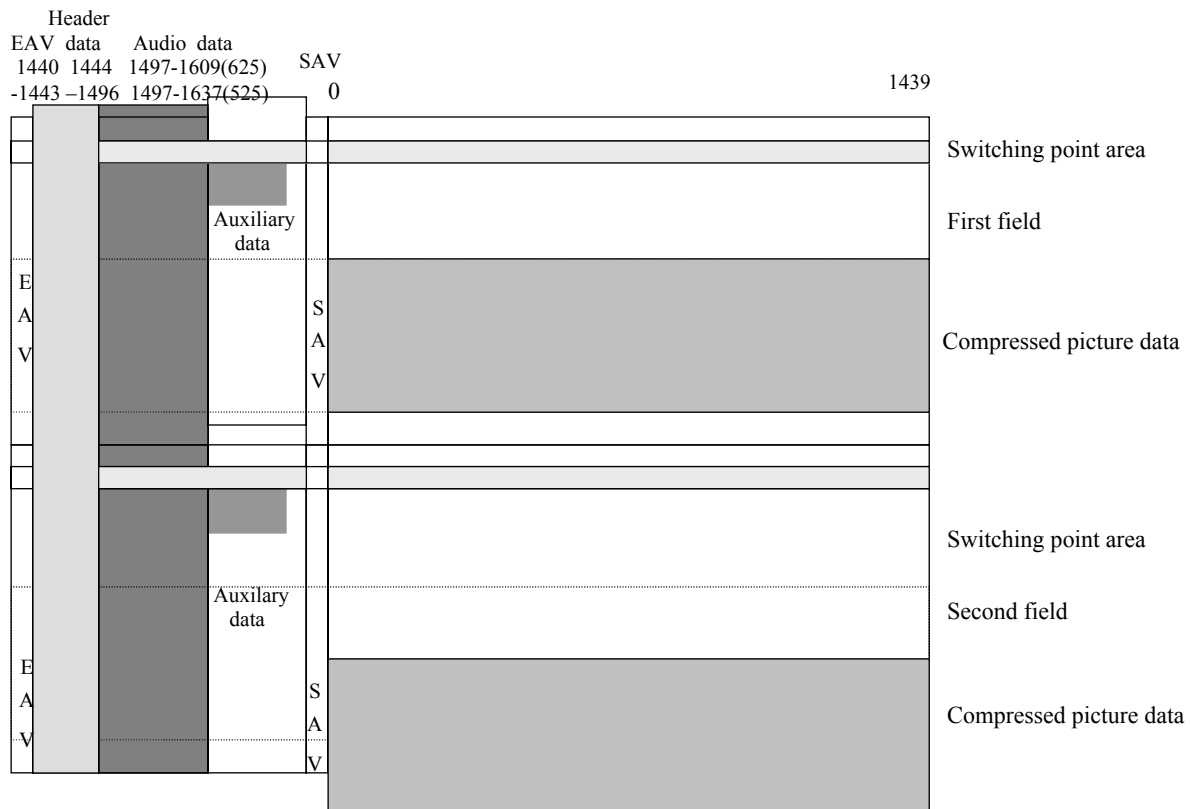


Figure 1 – SDTI mapping

Table 1 – Total number of lines and samples per line for each frame rate of the interface

Frame rate of the Interface	24/1.001 Hz	24 Hz	25 Hz	30/1.001 Hz
Total number of lines	525	625	625	525
Total number of samples per line	2145	1800	1728	1716
NOTE – The 24/1.001 Hz/24 Hz interface details are contained in annex A and annex B.				