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S T A N D A R D S

Digital Video Subcommittee

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**Carriage of Vertical Blanking Interval (VBI) Data in
North American Digital Television Bitstreams**

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1 Scope

This document is identical to SCTE 127 2007 except for informative components which may have been updated such as the title page, NOTICE text, headers and footers. No normative changes have been made to this document.

This document specifies a mechanism for transporting analog vertical blanking interval (VBI) information in compressed digital television bitstreams that use the MPEG-2 Transport Stream format. The VBI data so conveyed is intended to be used to generate the appropriate waveforms for insertion into the VBI of SMPTE 170M (NTSC) video output, or acted upon directly by a receiving device. This mechanism is independent of the coding layer and therefore may be used for any coding technology where carriage in an MPEG-2 PES packet format has been defined (e.g., MPEG-2 Video, MPEG-4 AVC, or SMPTE VC-1).

This design is intended to address the carriage of legacy analog VBI in digital devices such as video encoders, consumer decoders (set-top boxes and televisions), and edge decoders. It is constrained to the output video format of NTSC. However, this does not preclude the carriage in combination with other intermediate video formats or frame rates (which may be present as a result of video format conversion by an encoder).

This document extends the syntax and semantics of ETSI EN 300 472 [2] and ETSI EN 300 468 [3]. It adds data formats in the private data code point space.

This document does not define the carriage of CEA-608 Line 21 Services, CEA-708 DTV Closed Captioning, or generic analog VBI waveforms. For Cable Television systems, refer to ANSI/SCTE 20 [9] (legacy closed captions) and ANSI/SCTE 21 [10] (closed captions and Luma PAM waveform). For ATSC terrestrial broadcasting systems, refer to ATSC A/53, Part 4 [16].

2 Normative References

The following documents contain provisions, which, through reference in this text, constitute provisions of this standard. At the time of subcommittee approval, the editions indicated were valid. All standards are subject to revision, and parties to agreement based on this standard are encouraged to investigate the possibility of applying the most recent editions of the documents listed below.

2.1 Standards from Other Organizations

1. ISO/IEC 13818-1:2000, Coding of moving video and associated audio – Part 1: Systems [MPEG-2 Systems]
2. ETSI EN 300 472 v1.3.1 (2003-01), Digital Video Broadcasting (DVB); Specification for conveying ITU-R System B Teletext in DVB bitstreams
3. ETSI EN 300 468 v1.7.1 2006-05, Digital Video Broadcasting (DVB); Specification for Service Information (SI) in DVB systems
4. SMPTE 170M:2004, Composite Analog Video Signal – NTSC for Studio Applications
5. SMPTE 12M:2002, Time and Control Code
6. CEA-516:1988, North American Basic Teletext Specification (NABTS)