

# Transport of VBI Packet Data in Ancillary Data Packets



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## 1 Scope

SMPTE 334M defines a method of carrying program-related data in ancillary data packets. In particular, it defines a packet named VBI data which is identified by the following combination of data identifier (DID) and secondary data identifier (SDID):

$$\text{DID} = 162_{\text{h}} \quad \text{SDID} = 203_{\text{h}}$$

This packet carries data which can be used to produce a data signal in the vertical blanking interval (VBI) of a standard-definition video signal derived from the SMPTE 292M digital video stream.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this practice. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this practice are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below.

ANSI/EIA 516-1988, Joint EIA/CVCC Recommended Practice for Teletext: North American Basic Teletext Specification (NABTS)

SMPTE 334M-2000, Television — Vertical Ancillary Data Mapping for Bit-Serial Interface

## 3 Packet format

Each VBI data ancillary packet contains the data required to produce the desired data waveform in exactly one VBI line. The format of this packet is as follows:

Header:	UDW:	Suffix:
ADF (3 words)	LINE (1 word)	CS (1 word)
DID = $162_{\text{h}}$	TYPE (1 word)	
SDID = $203_{\text{h}}$	Data payload (variable)	
DC = variable		

The LINE value at the start of the UDW represents the field number and VBI line where the data are intended to be carried. Bit b7 of LINE is the field number (0 for field 2; 1 for field 1). Bits b6 and b5 are 0. Bits b4-b0 form a 5-bit unsigned integer which represents the offset (in lines) of the data insertion line, relative to the base VBI frameline (line 9 of 525-line field 1, line 272 of 525-line field 2, line 5 of 625-line field 1, line 318 of 625-line field 2).

The TYPE field identifies the VBI data broadcast standard used to encode the data. The TYPE values and corresponding data count (DC) values are shown in table 1. This table contains some data formats which are in widespread use. This list is not exhaustive and can be augmented as required.

**Table 1 – Data formats**

TYPE	Standard	DC	Data payload
1	ANSI/EIA 516 (NABTS)	36	34 bytes, starting with the BS (byte sync) value.
2	Guide Plus + <sup>1)</sup>	6	The 4 data bytes in the packet.
3	AMOL <sup>2)</sup>	8	The 6 data bytes in the packet.
4	AMOL II <sup>2)</sup>	14	The 12 data bytes in the packet.
<sup>1)</sup> Guide Plus + is a trademark of Gemstar Development Corporation. <sup>2)</sup> AMOL (automated measurement of lineups) is a trademark of Nielsen Media Research.			

Note that the data described in this standard may also be transported in KLV format according to SMPTE RP 214, or via other means.

## **Annex A (informative)**

### **Bibliography**

SMPTE 292M-1998, Television — Bit-Serial Digital Interface for High-Definition Television Systems

SMPTE RP 214-2002, Packing KLV Encoded Metadata and Data Essence into SMPTE 291M Ancillary Data Packets