

RTP Payload Format for SMPTE 292M Video

draft-ietf-avt-smpte292-video-04

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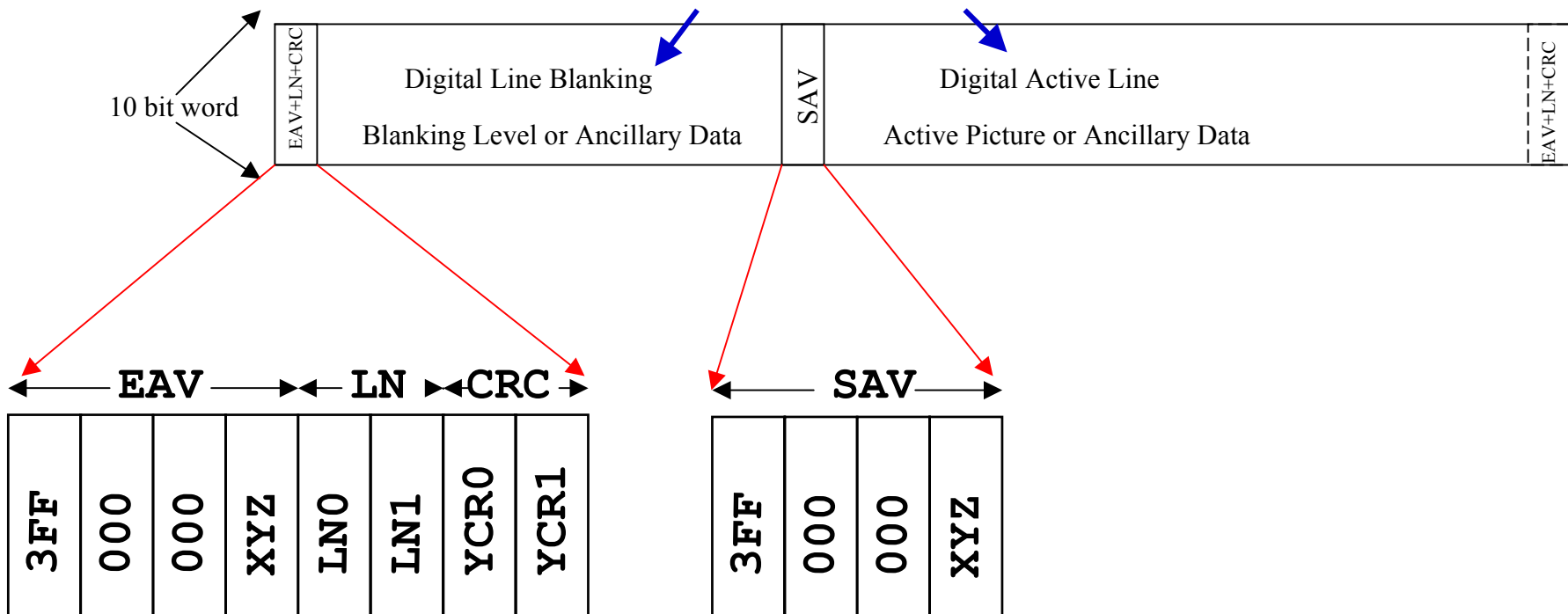
Tektronix

UW

SMPTE292M Line Format

SMPTE292M is the universal transport format for uncompressed High Definition TV (HDTV) at 1.485Gbps and 1.485/1.001Gbps.

source formats: 260M, 295M, 274M, 296M, ...



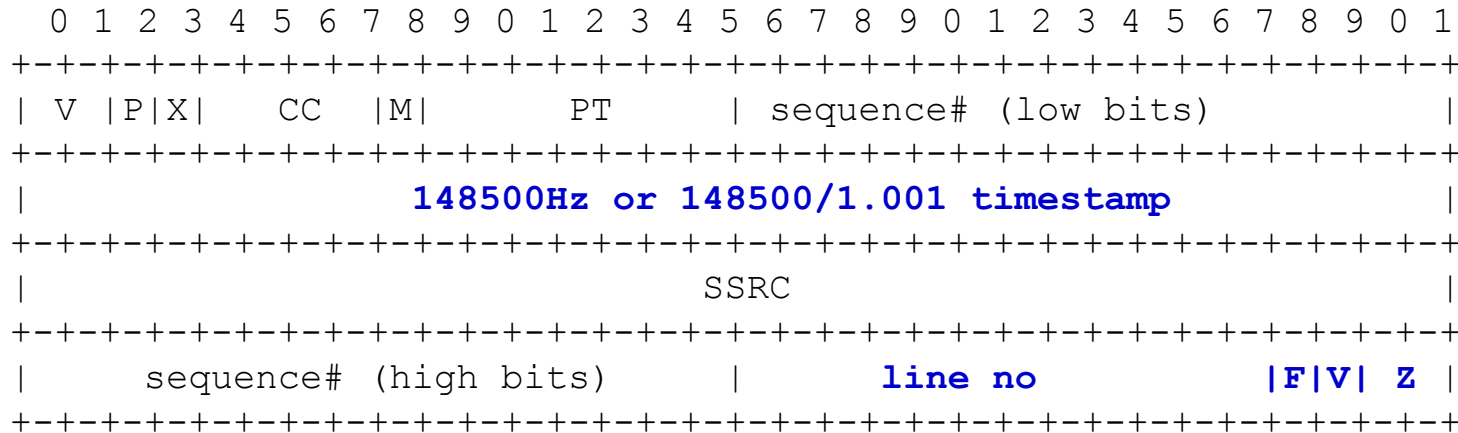
F: field type
V: field blanking

Changes since -03:

- **RTP timestamp:** 10Mhz -> 148500Khz or 148500/1.001Khz
 - SMPTE292M data rates: 1.485Gbps & 1.485/1.001Gbps
 - unique and accurate timestamp for each 10bit word
- **payload header:** Unused 16 bits -> 11bit line no, V flag, F flag
 - allows for reconstruction of EAV+LN and SAV in case of packet loss
- **Packetization:**
 - EAV and SAV timing signals SHOULD NOT be fragmented:
 - SMPTE292 decoder uses the sync info in the scan lines to detect a new line
 - lines MUST NOT be fragmented across related Y and Cb and Cr values:

sampling	Pixels	Y,Cr,Cb	10 bit words
4:2:0	4	Y1,Y2,Y3,Y4,Cr,Cb	6
4:2:2	2	Y1,Y2,Cr,Cb	4
4:4:4	1	Y,Cr,Cb	3

RTP Payload Header



- M bit : marks end of frame
- 32 bit sequence number: ~ 6hr roll-around time at 1.485Gbits/sec (with packet size of at least 1k)
- 148500Hz or 148500/1.001Hz timestamp
- 11bit line number
- F indicates field number
- V indicates field blanking

Open Issue

- representing the 148500/1.001Khz in SDP ?
 - $148500000/1.001 = 148351648.35164835164835164835165$
- Possible solutions:
 - Interpreting value of 148351648 as 148500000/1.001
 - modifying SDPs syntax to account for fractional clock rates

SDP example:

m=video 23456 RTP/AVP 111

a=rtpmap:111 SMPTE292M/148351648.3516

a=fmtp:111 length=686