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CCITT SGXV
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Specialists Group on Coding for Visual Telephony

Source : JAPAN
Title : Introduction of End of Picture (EOP) Marker
Purpose : Proposal

1. Introduction

In this contribution, the concept of introducing an End of Picture (EOP) Marker into the video multiplex coding scheme is explained.

Introduction of an "EOP" has the following merits.

- 1) It allows transmission of the optional data for functions such as "Conditional Motion-compensated Interpolation" without changing the current video multiplex coding structure. (Data can be freely inserted between EOP and PSC provided it does not emulate PSC, and it can be discarded by basic decoders.)
- 2) It shortens the delay in displaying a picture in the decoder in some case.
- 3) It may simplify the hardware or software of the decoder.
- 4) It may be useful in avoiding emulation of PSC. (The next PSC never appears before EOP.)

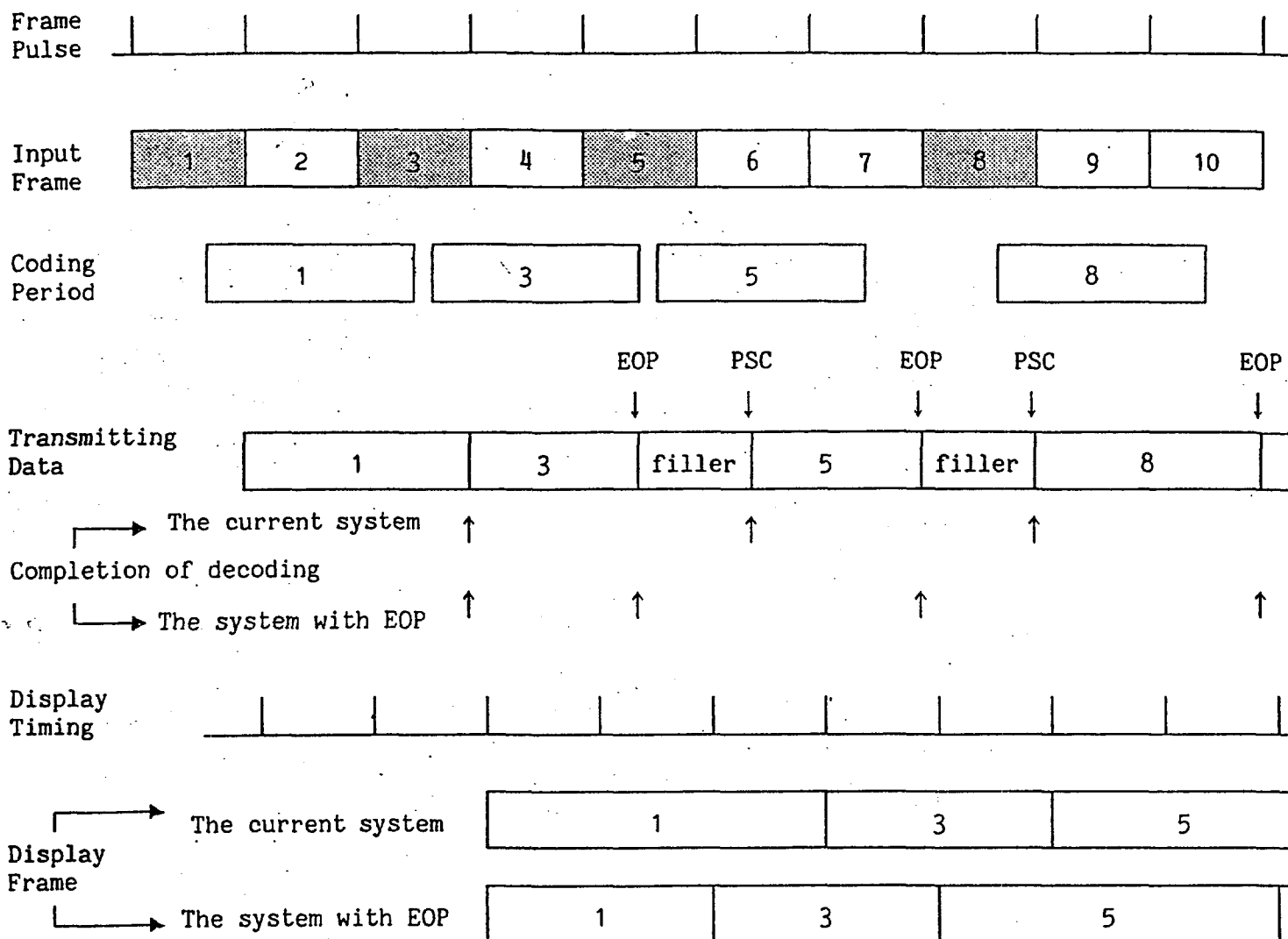
2. Discussion

- 1) With the current specification, the decoder can not complete one picture decoding before the PSC of the next picture arrives. Figure 1 represents the example of shortening the display delay.
- 2) EOP has little effect on coding efficiency. (11 bits/picture)
- 3) EOP is optional. There is no problem in compatibility between system with and without EOP.
- 4) Using EOP as an "escape" code provides flexibility for the insertion of optional data.

3. Conclusion

We propose to include the EOP code in the "VLC Table for MBA" for the final recommendation.

It is not necessary that EOP be a unique codeword. An example of codewords is shown in Table 1, and a syntax diagram is shown in Figure 2.



VLC Table for MBA

MBA	VLC	MBA	VLC
1	1	17	0000 0101 10
2	011	18	0000 0101 01
3	010	19	0000 0101 00
4	0011	20	0000 0100 11
5	0010	21	0000 0100 10
6	0001 1	22	0000 0100 011
7	0001 0	23	0000 0100 010
8	0000 111	24	0000 0100 001
9	0000 110	25	0000 0100 000
10	0000 1011	26	0000 0011 111
11	0000 1010	27	0000 0011 110
12	0000 1001	28	0000 0011 101
13	0000 1000	29	0000 0011 100
14	0000 0111	30	0000 0011 011
15	0000 0110	31	0000 0011 010
16	0000 0101 11	32	0000 0011 001
		33	0000 0011 000
		Start Code	0000 0000 0000 0001
		Stuffing	0000 0001 111
		EOP	0000 0001 101

Figure 2 Syntax diagram