CCITT SGXV
Working Party XV/1
Specialists Group on Coding
for Visual Telephony

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Title: **PROPOSAL FOR PICTURE AND GOB HEADERS**

Source: N, S, UK, F, FRG, NL, I

Existing Flexible Hardware Specification.

Picture Header in Flexible Hardware:

PSC	TR	TYPE1	PEI1	PARITY	PEI2	PSPARE	
20	5	13	1	0/8	1	0/16	bits

Total: 40/48/56/64 bits.

GOB Header in Flexible Hardware:

GBSC	GN	TYPE2	QUANT1	GEI	GSPARE	
16	4	6	5	1	0/16	bits

Total: 32/48 bits.

Proposed Specification for Final H261 Recommendation.

Picture Header in Final Recommendation:

PSC	TR	TYPE1	PEI	PSPARE
20	5	6	1	0/9/18/... bits

Total: 32/41/50/... bits.

TYPE1:	bit 1	Split Screen (0=Off, 1=On)
	bit 2	Document Camera (0=Off, 1=On)
	bit 3	Freeze Picture Release (0=Normal Mode, 1=Release)
	bit 4	Picture Format (0=Quarter CIF, 1=CIF)
	bit 5	Spare
	bit 6	Spare
PEI		PSPARE Indicator (0=No PSPARE, 1=PSPARE follows)
PSPARE	bit 1..8	PSPARE Data (Spare)
	bit 9	PSPARE Ind. (0=No Following PSPARE, 1=PSPARE follows)

GOB Header in Final Recommendation:

GBSC	GN	QUANT1	GEI	GSPARE
16	4	5	1	0/9/18/... bits

Total: 26/35/44/... bits.

GEI		GSPARE Indicator (0=No GSPARE, 1=GSPARE follows)
GSPARE	bit 1..8	GSPARE Data (Spare)
	bit 9	GSPARE Ind. (0=No Following GSPARE, 1=GSPARE follows)

PSPARE and GSPARE Linked Lists.
The linked list for PSPARE operates as follows:-

If PEI is set, then a 9 bit value follows, consisting of 8 bits of data (PSPARE) and one bit to indicate if another data value follows. Hence, the PSPARE field can be treated as though it consisted of an 8 bit data field and a PEI field.

Hence a decoder would operate as follows:-

```
WHILE (PEI=1)
DO
        Decode/Ignore Next 8 Bits
        Read 9th bit as PEI
ENDDO
```

The GEI/GSPARE fields operate in the same manner.

NOTEs.
a) PSPARE cannot emulate a Start Code. However, GSPARE can emulate a start code if it's final value is not restricted. (Intermediate values can never emulate start codes!)
b) These bits are not proposed for National use. They are intended for future standardised expansion, and as such their use should be specified as part of an internationally agreed extension to H261.
c) Any decoder capable of decoding the existing PSPARE/GSPARE constructs should be able to decode this new construct, as the process is almost identical.