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MPEG 92/048
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Title: Adding compatible prediction to even fields
Source: PTT Research
Purpose: Information

The MPEG2 video coding algorithm has several modes of operation. One of them has been investigated in the past extensively by PTT Research; field structured pictures, compatible prediction to odd fields.

In this structure the possible benefit of a compatible prediction to the even fields has not been exploited. Now this structure has been tested and compared to the structure using in addition a compatible prediction to even fields (the compatible prediction to the odd and even fields is the same, decisions are taken on a MB by MB basis and are independent between the odd and even fields).

	Odd field compatible	Odd and even field compatible
Table Tennis	34.20	34.23
Flower Garden	29.94	29.97

Table 1: SNR figures

SNR figures show no difference. Visually the sequences show also no difference.

The spatial prediction selection percentage is given below:

	Odd field compatible			Odd and even field compatible				
	Odd field			Odd field			Even field	
	I	P	B	I	P	B	P	B
Table Tennis	100%	67%	32%	100%	67%	31%	14%	6%
Flower Garden	100%	81%	44%	100%	81%	44%	21%	7%

Table 2: Spatial prediction selection

Conclusion

Adding compatible prediction to even fields in addition to odd fields does not improve or worsen the image quality, without increase in complexity.