



**JCT3V-C0148**

**CE5.h: Additional merge candidates  
derived from shifted disparity vectors**

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# Introduction

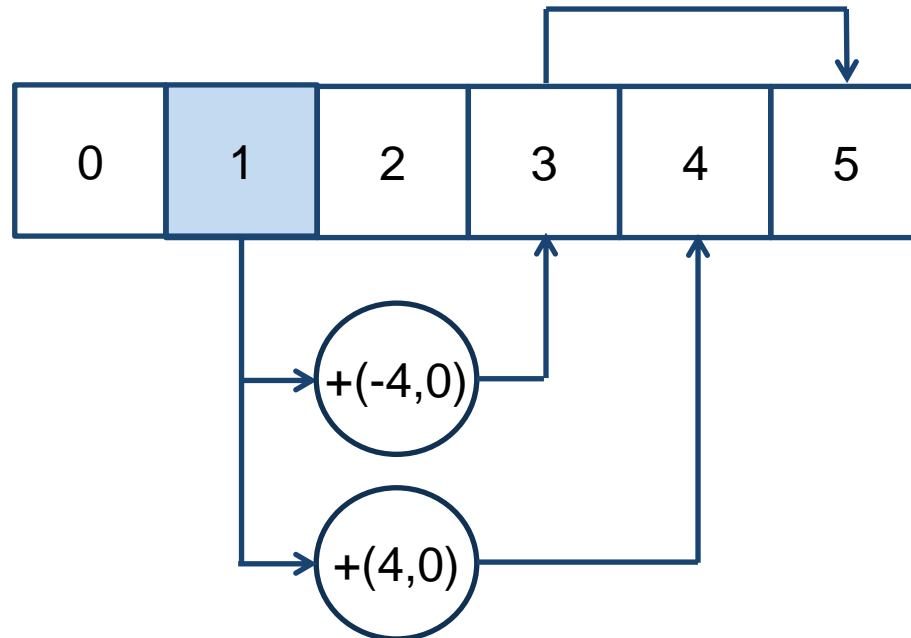
- First proposal in Stockholm (A0134) for adding new candidates in the merge list, derived from horizontally shifted Disparity Vectors by +4 or -4
  - (+) Interesting gains (video1:-0.4%; video2:-0.4%, overall: -0.2%)
  - (-) Size of the list increased (could be higher than 6)
- Second proposal in Shanghai (B0080)
  - (+) Preserving the maximum size of the list (6)
  - (-) gains decreased, yet still interesting: (video1:-0.3%; video2:-0.3%, overall: -0.1%) with almost no extra complexity
- Further improvements to A0134 and B0080
  - (+) Preserving the maximum size of the list (6)
  - (-) Gains (video1:-0.4%; video2:-0.5%, overall: -0.2%) with almost no extra complexity

# Proposed method

- First construct the full list as usual
- Select the first disparity vector available in the 3 first positions in the list. If such a candidate does not exist, stop the process
- Refine the selected disparity vector with the addition of offsets  $(-4, 0)$  and  $(4, 0)$
- Insert the two new refined candidates at a specific position in the list as follows

# Proposed method

First available  
disparity vector



# Results

	video 0	video 1	video 2	video only	synthesized only	coded & synthesized	enc time	dec time	ren time
Balloons	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	95,5%	102,0%	106,3%
Kendo	0,0%	-0,4%	-0,7%	-0,3%	-0,1%	-0,1%	97,4%	101,9%	110,7%
Newspapercc	0,0%	-0,7%	-0,6%	-0,3%	-0,2%	-0,2%	103,3%	98,2%	113,8%
GhostTownFly	0,0%	-0,5%	-0,9%	-0,2%	-0,2%	-0,2%	101,6%	102,4%	106,0%
PoznanHall2	0,0%	-0,2%	-0,2%	-0,1%	-0,1%	-0,1%	99,4%	99,0%	104,4%
PoznanStreet	0,0%	-0,7%	-0,6%	-0,3%	-0,2%	-0,2%	102,9%	101,1%	106,7%
UndoDancer	0,0%	-0,3%	-0,4%	-0,1%	-0,2%	-0,2%	101,6%	101,5%	104,8%
1024x768	0,0%	-0,3%	-0,4%	-0,2%	-0,1%	-0,1%	98,7%	100,7%	110,2%
1920x1088	0,0%	-0,4%	-0,5%	-0,2%	-0,2%	-0,2%	101,4%	101,0%	105,5%
average	0,0%	-0,4%	-0,5%	-0,2%	-0,1%	-0,2%	100,2%	100,9%	107,5%

# Conclusion

- 0.4% and 0.5% gains on side views on average, with gains up to 0.9%
- 0.2% gain on overall bit rate
- No added complexity
- **Proposed for adoption**
- **Thanks to Qualcomm and Orange for cross-checking (JCT3V-C0175 and JCT3V-C0151)**