

Title: **Picture Adaptive Field/Frame (PAFF) coding compared to deinterlaced progressive**

Status: Input Document to JCT-VC

Purpose: Information

Author(s) or Keith Slavin
Contact(s): isovideo LLC

Email: keith@isovideo.com

Chad Fogg
Harmonic Inc.

chadfogg@gmail.com

Source: Isovideo, Harmonic Inc.

Abstract

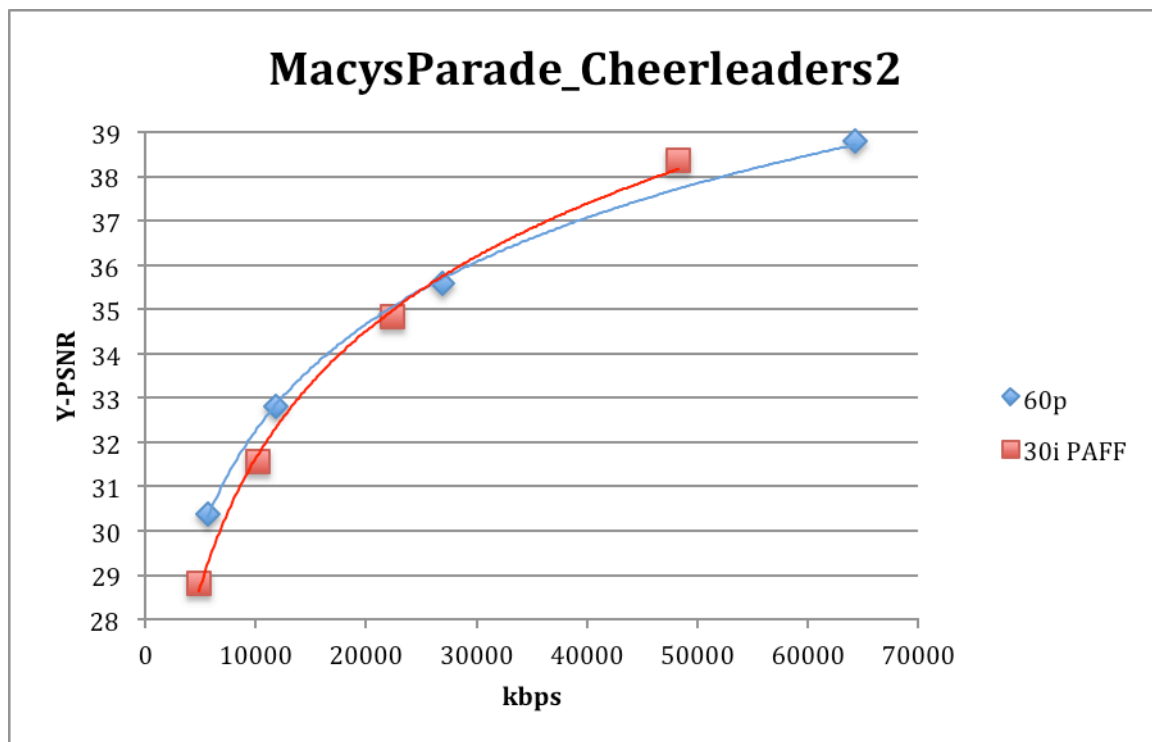
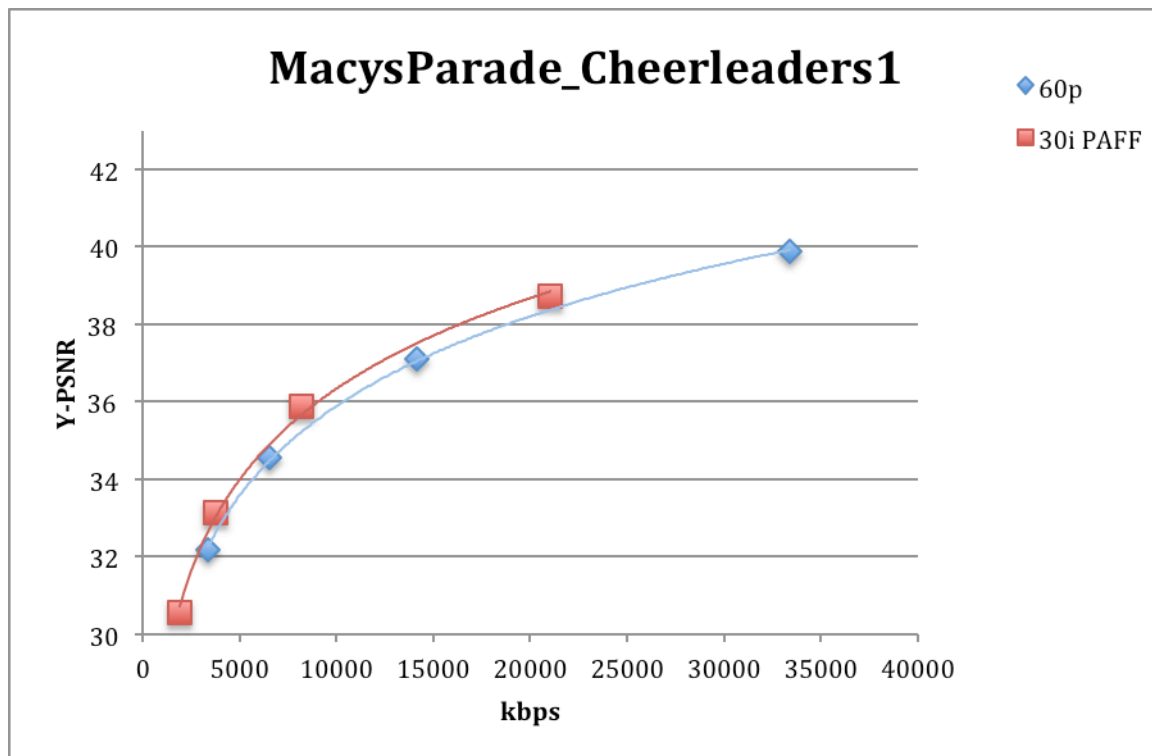
1080i 30 frame/sec coding performance results from an HM encoder modified for PAFF (Picture Adaptive Field Frame) are compared to Main10 HM progressive coded 1080p 60 frames/sec sequences that were deinterlaced from the same 1080i 30 fps source. The sequences tested are the set selected by the interlaced study AdHoc Group between the July 2013 Vienna and October 2013 Geneva MPEG meetings. PSNR vs. bitrate plots show both methods yield similar objective quality. All four 1080i PAFF-coded sequences incur higher BD-Rates: +4.4% (Cheerleaders1), +6.48% (Cheerleaders2), +11.86% (Musical), and +461.49% (Mad Fashion).

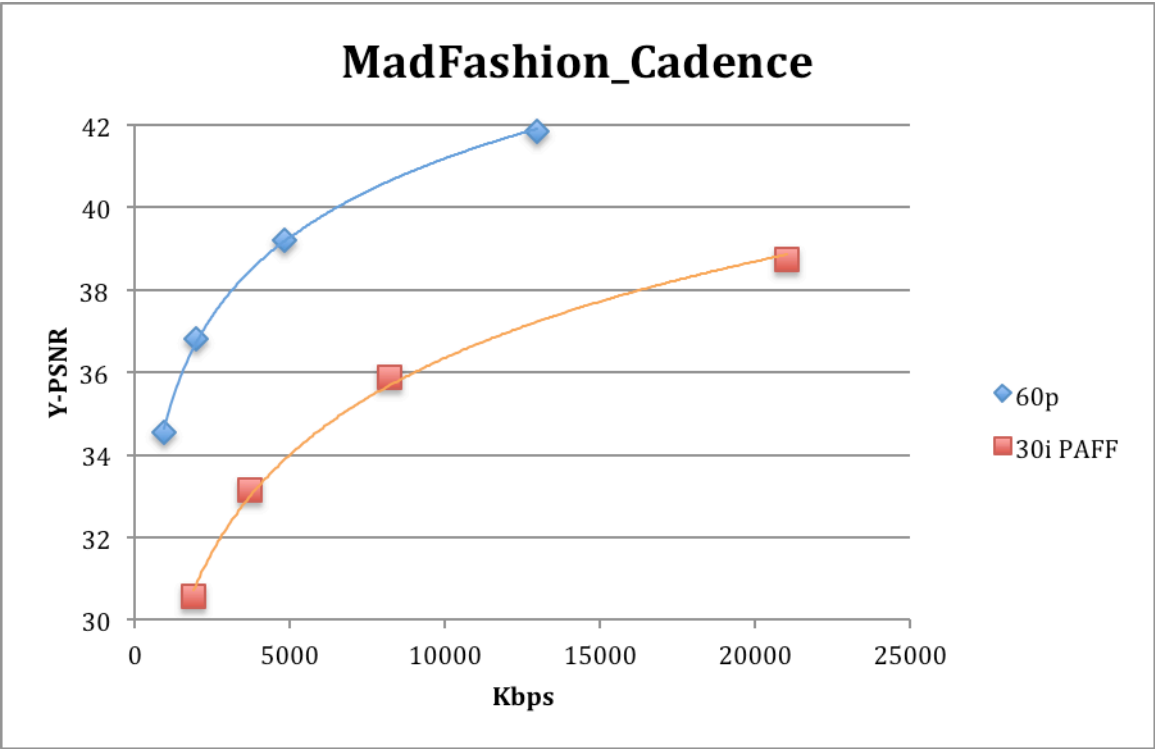
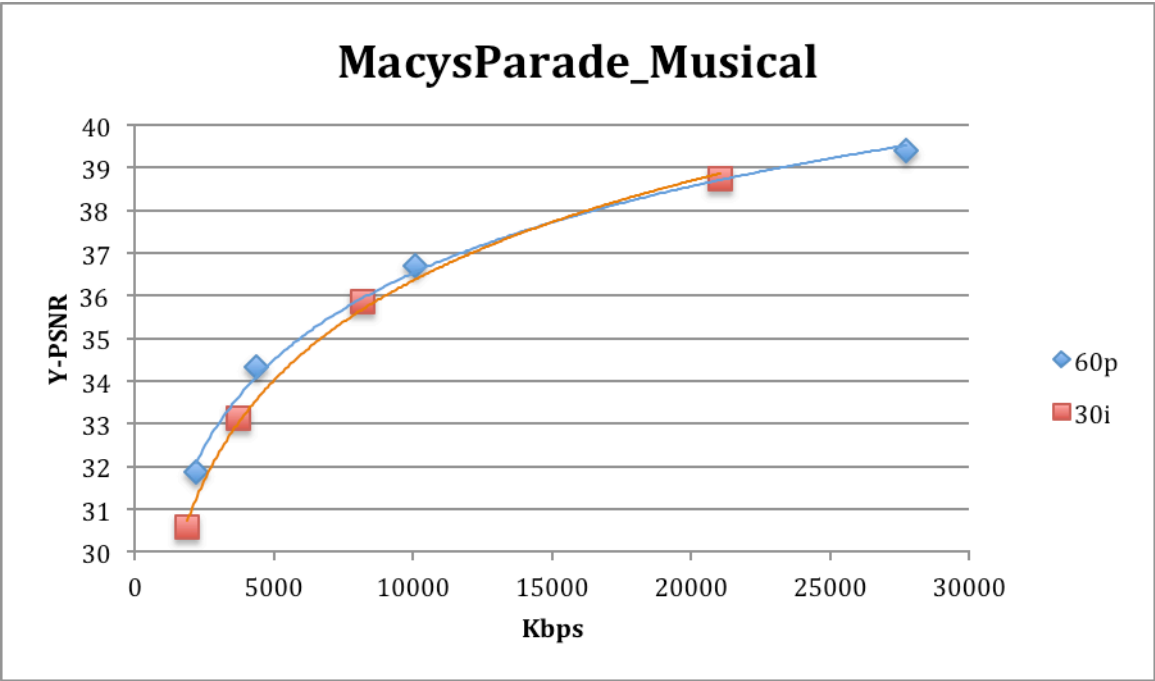
1 Introduction

The 1080p 60 frame/sec sequenced were deinterlaced from the process described in [1] (similar to [2]), then coded with an unmodified HM 12.0 HEVC reference encoder in the Random Access High Efficiency Main10 common conditions [3], while the 30i bitstreams had been created with the proposed PAFF modifications from July 2013 [4].

2 Results

The tables and figures below are copied from the accompany spreadsheet (JCTVC-O0100_r1.xls) for the sequences identified by the MPEG interlace Adhoc Group [5].





3 References

- [1] K. Slavin, C. Fogg, “AVC and HEVC coding efficiency of deinterlaced sequences,” [JCTVC-K0158](#), October 2012.
- [2] A. Zineb, J. Vieron, P. Larbier, J.-M. Thiesse, “HEVC encoding of deinterlaced sequences: a preliminary study,” [JCTVC-K0353](#), October 2012.
- [3] F. Bossen, “Common HM test conditions and software reference configurations,” [JCTVC-L1100](#), Geneva, January 2013.
- [4] G. Barroux, K. Kazui, A. Nakagawa, “Proposal of interlace coding tools for HEVC”, [m30452](#), July 2013.
- [5] A. Hinds, “AHG on Study of interlace coding in HEVC”, [m30737](#), October 2013.

4 Patent rights declaration(s)

isovideo and Harmonic do not have any current or pending patent rights relating to the technology described in this contribution.