

Perform real-time HDR conversions without compromise on the artistic intent

INTRODUCTION

b<>com *Adaptive HDR Converter* offers all the benefits of real-time frame-by-frame adaptive conversion techniques, without any need for manual adjustment. Based on an intelligent algorithm, this technology guarantees an optimal conversion regardless of the video content. Despite the adaptive conversion, it does not require the use of metadata, and yet is still able to guarantee a visually lossless round trip.

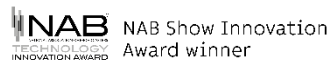
BENEFITS

- Cost effective HDR content production and distribution
- Simpler workflow combining conversions back and forth
- Best in class for Live production: No metadata required and style aware conversion
- Versatile: Easy integration at any stage of the production workflow
- Excellent subjective quality: Frame by frame adaptive conversion

SOLUTION OVERVIEW

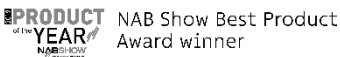
SDR-HDR conversion

A simple yet powerful way to convert SDR content into an HDR format.



HDR-SDR conversion

A smart way to produce a backward compatible SDR signal from HDR content produced in BT.2100-PQ, BT.2100-HLG or Slog3.



HDR-HDR conversion

Allows the conversion between different HDR formats.



Key Features

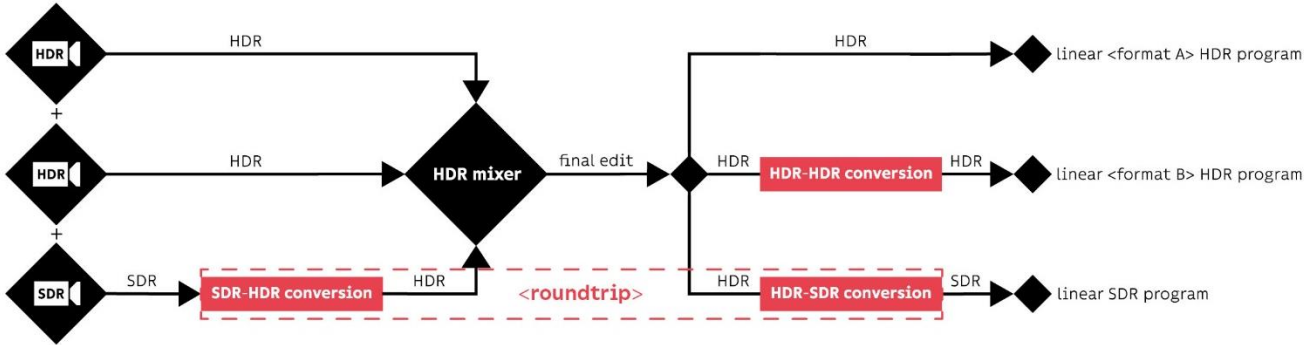
- > Real-time adaptive up/down conversion
- > Perfect roundtrip
- > Ultra-low latency
- > Supports HD and UHD standards
- > Works with any HDR format: PQ/ HLG/Slog3
- > Small footprint IP core on FPGA



APPLICATIONS



PRODUCTION WORKFLOW



SPECIFICATIONS

	SDR-HDR conversion		HDR-SDR conversion		HDR-HDR conversion	
Resolution	Tested and released in HD (1920x1080p) and UHD (3840x2160p). Customizable to any resolution					
Framerate¹	Tested and released in 50, 59.94 and 60 fps. Customizable to any progressive framerate					
Input EOTF	BT.1886 (Gamma 2.4)		BT.2100 PQ (1000 nits), HLG and S-Log3			
Input color space	BT.709 in 10 bit Y'CbCr 4:2:2		BT.2020 in 10 bit Y'CbCr 4:2:2			
Output EOTF	PQ (1000 nits), HLG and S-Log3		BT.1886 (Gamma 2.4)		PQ (1000 nits), HLG and S-Log3	
Output color space	BT.2020 in 10 bit Y'CbCr 4:2:2		BT.709 in 10 bit Y'CbCr 4:2:2		BT.2020 in 10 bit Y'CbCr 4:2:2	
Implementation	SW (Intel CPU)	HW (FPGA IP core)	SW (Intel CPU)	HW (FPGA IP core)	SW (Intel CPU)	HW (FPGA IP core)
Interfaces I/O	YUV file 422p10le 10 bits	RGB 4:4:4 10 bits on 3 I/O busses	YUV file 422p10le 10 bits	RGB 4:4:4 10 bits on 3 I/O busses	YUV file 422p10le 10 bits	RGB 4:4:4 10 bits on 3 I/O busses
Deliverable	Static library compiled for 64-bit Linux ² or Windows O.S.	Encrypted code to target FPGA	Static library compiled for 64-bit Linux ² or Windows O.S.	Encrypted code to target FPGA	Static library compiled for 64-bit Linux ² or Windows O.S.	Encrypted code to target FPGA
Speed of conversion on UHD format	real time on modern CPU (ex: bi-Intel Xeon CPU E5-2687 @ 3.00 GHz)	Real time. Latency < 1 line	real time on modern CPU (ex: bi-Intel Xeon CPU E5-2687 @ 3.00 GHz)	Real time. Latency < 1 line	real time on modern CPU (ex: bi-Intel Xeon CPU E5-2687 @ 3.00 GHz)	Real time. Latency < 1 line

¹ in HD and UHD, input and output frame rates are the same.

² Ubuntu from 18.04 and CentOS 8.

TAKE THE NEXT STEP

Learn more about b<>com [*Adaptive HDR Converter*](#)

Reach out to b<>com sales at sales@b-com.com

