

The background is a solid red color with a complex, abstract pattern of white and light red lines and dots. These elements form a network-like structure, with some dots appearing as bright, glowing nodes. There are also faint, semi-transparent digital motifs, including what looks like a code editor window with a '</>' symbol, a waveform graph, and some binary code (0s and 1s) scattered throughout the upper half of the image.

# AHG17: Unequal bit depths

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# Background

- Bit depth of the samples of the luma array and the chroma array are coded independently:
  - `bit_depth_luma_minus8`
  - `bit_depth_chroma_minus8`
- Believe original intent was for encoder implementation flexibility
- Impression from HEVC product development was only used in test bitstreams
  - Increased burden to test and verify with minimal practical benefit

# Proposal

- Propose constraining luma and chroma to be the same bit depth
- Reduces possible combinations from  $N^2$  to  $N$
- Still provides encoder flexibility
- Removes many combinations not used in practice

# Reduces combinations to test and verify

Combinations in a  
10-bit profile are  
reduced from 9 to 3

	Luma Bit Depth			
Chroma Bit Depth		8	9	10
	8	X		
	9		X	
	10			X

Combinations in a  
12-bit profile are  
reduced from 25 to 5

	Luma Bit Depth					
Chroma Bit Depth		8	9	10	11	12
	8	X				
	9		X			
	10			X		
	11				X	
	12					X

# Syntax changes

- Code a single bit depth in the SPS to be used for both luma and chroma

...	
}	
bit_depth_ <del>luma</del> _minus8	ue(v)
<del>bit_depth_chroma_minus8</del>	<del>ue(v)</del>
min_qp_prime_ts_minus4	ue(v)
...	



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