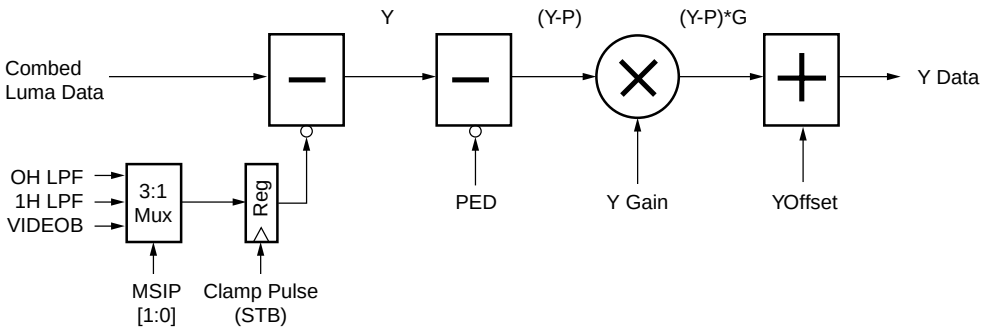
Application Note 54

Black Level Clamp

To obtain the black level within the TMC22x5y family of digital decoders, either the input video is passed through a low pass filter or the input on VIDEOB is sampled once per line, at a time fixed by the programmed value of STB with respect to the horizontal reference.

However, from customer feedback, it has been shown that the presence of low frequency white noise can cause errors in the black level estimation, which in turn causes vertical banding of the decoded luminance signal.

This problem can be overcome, if you are implementing a chroma comb filter, by selecting VIDEOB as the input to the internal black level clamp circuit; and providing an external black level clamp circuit using a time constant of 30 - 50 horizontal line periods. The output of this external black level clamp circuit provides the required digital black level to the VIDEOB input of the TMC22x5y digital decoder. When implementing this approach the SYNC bit in register 0Fh must be set LOW if mixed syncs are required on the decoded video signal.



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