

OVERVIEW

Synchronizing an SDI video feed to a system house sync can be accomplished using the LF3312. In this application, we can place the LF3312 buffer directly after the deserializer and use the reclocked video timing signals to control the write pointer of the LF3312.

If both Luma and Chroma are to be simultaneously output from the deserializer as 20bits, the LF3312 can be placed in dual-channel mode – accepting 10bit data. Channel A handles the Luma 10bits and Channel B handles the Chroma 10bits.

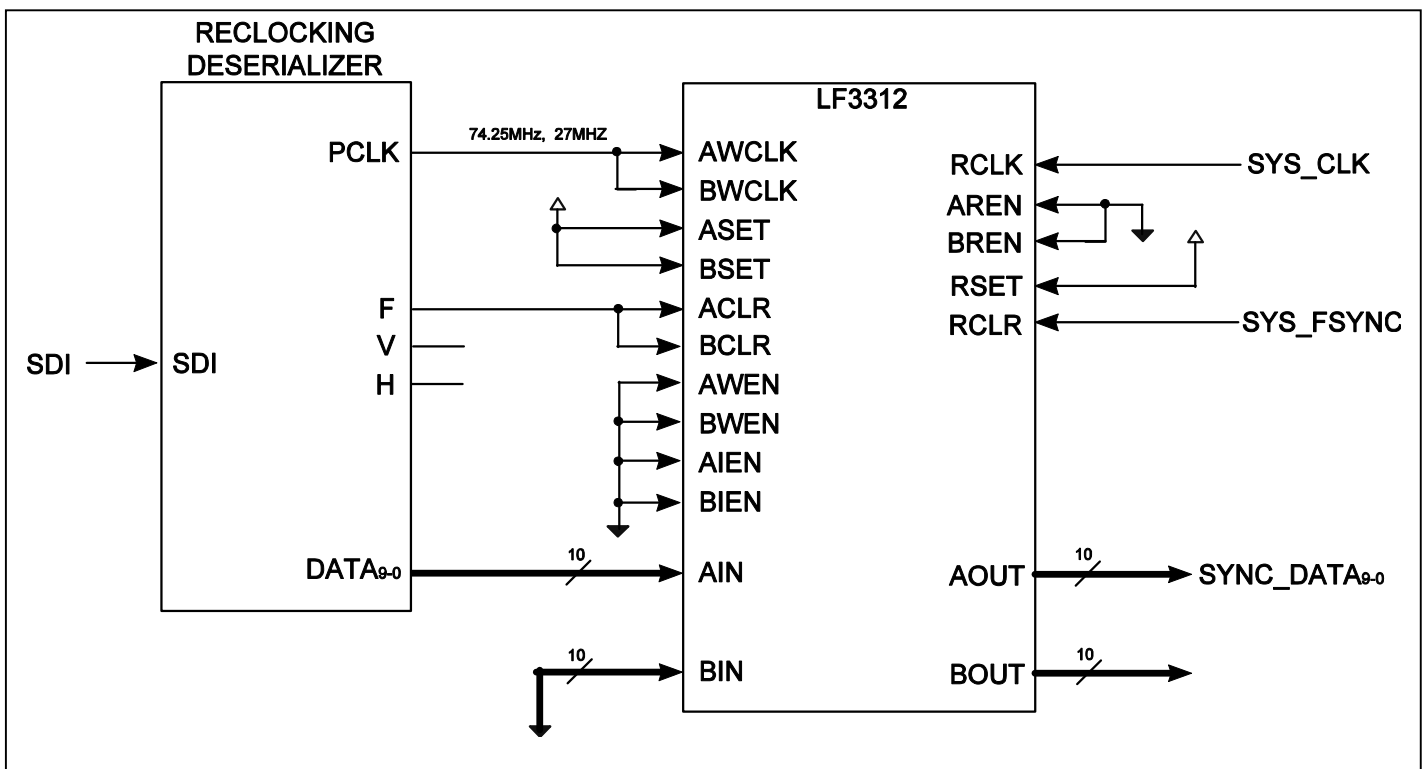
If Luma and Chroma are sent out of the deserializer output in an interleaved 10bit stream, the LF3312 can be placed in single-channel mode – accepting 10bit data. BIN must be tied HIGH or LOW.

Two methods exist for clearing the write pointer on frame boundaries. The first option is tying the F bit to the Write Pointer Clear. The falling edge of the F bit can be programmed to reset the write pointer. The second option is using the embedded TRS data to reset the write pointer on the falling edge of the F bit within the EAV sequence. If the video is progressively scanned, the write pointer may have to be reset by external logic.

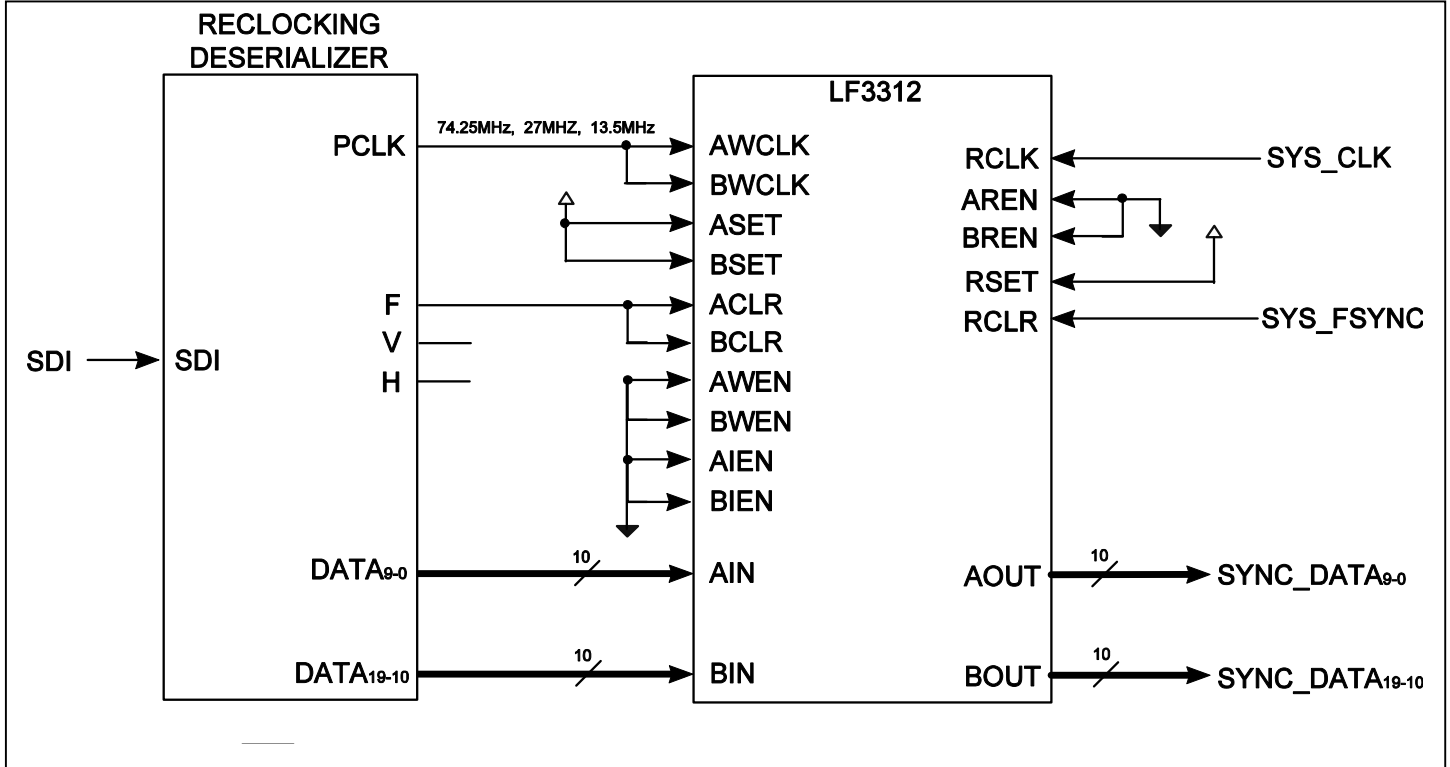
If a falling edge synchronization signal is to be used as a write or read pointer reset, the associated LF3312 pointer control pin must be programmed to be falling edge sensitive (Register A).

NOTE: The LF3312 can be cascaded for depth expansion.

Deserializing 10bit SD Video



Deserializing 20bit SD or HD Video



In both SDI frame synchronization applications, FIFO mode should be used. In the case that a single deserialized 10bit stream is to be buffered, single-channel FIFO mode should be used (OPMODE Register 2 [2:0]=011). In the case that two deserialized 10bit streams are to be buffered, dual-channel FIFO mode should be used (OPMODE Register2 [2:0]=111).