



## Overview

Synchronization or Time Base Correction of an SDI video feed to arbitrary reference timing can be easily accomplished using the LF3312. In this application, the LF3312 buffer is placed directly after the deserializer and accepts deserialized data and a reclocked 'field' timing signal to clear the write pointer.

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 2x10bit 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:

### Field bit From Deserializer

The first option is tying the F bit to the Write Pointer Clear. The falling edge of the F bit can be programmed to clear the write pointer.

### Auto-Detect of Embedded TRS

The second option is using the embedded TRS data in the deserialized video stream to clear the write pointer. The falling edge of the F bit within the EAV sequence can be used to clear the write pointer.

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.

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).

