

Application Note 58

TMC2067P7C Demonstration Board

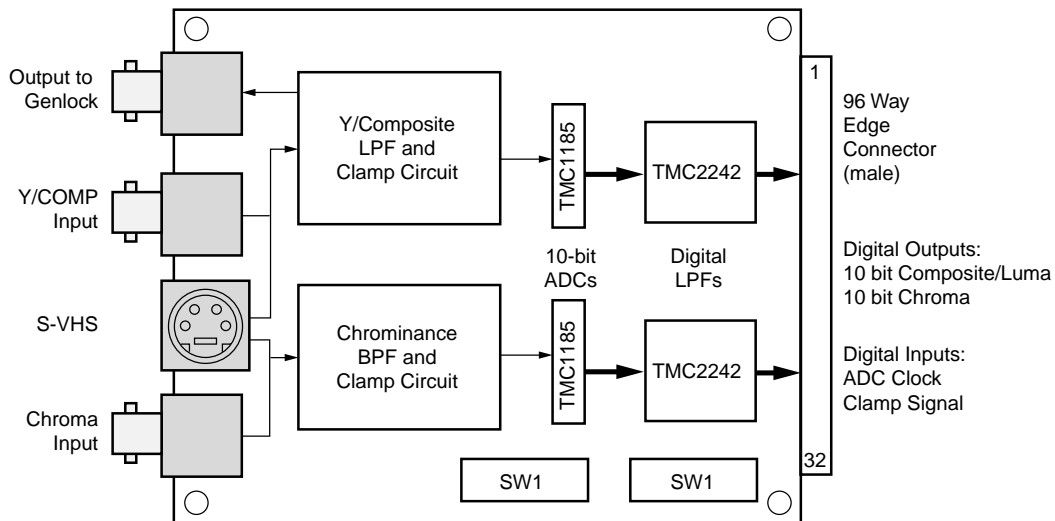
The TMC2067P7C provides a high quality 10 bit front end for the TMC22153 digital decoder.

The Y/COMP (luminance/composite) analog input is buffered to a BNC for connection to the TMC22071A genlocking video digitizer on the TMC2068P7C decoder demonstration board. The Y/COMP signal is also passed through a simple antialiasing low pass filter. The filtered Y/COMP signal is clamped to the back porch level using the Elantec EL4390. The clamp pulse being provided by an FPGA on the TMC2068P7C decoder demonstration board, which is locked to the horizontal sync produced by the TMC22071A. The clamped Y/COMP signal is transformed into the differential input signal required by the TMC1185, 10 bit ADC. The differential Y/COMP signal is oversampled in the TMC1185, using the PXCK clock from the TMC22071A, and then decimated in the TMC2242 digital low pass filter.

The CHROMA (chrominance) analog input is passed through a simple bandsplit filter which acts as both the antialiasing filter for the TMC1185 and suppresses low frequency noise or signals on the CHROMA signal. The filter output is clamped to the chroma black level using the Elantec EL4390 using the same clamp pulse used to clamp the Y/COMP signal. The clamped CHROMA signal is transformed into the differential input signal required by the TMC1185. The differential CHROMA signal is oversampled in the TMC1185, using the PXCK clock from the TMC22071A, and then decimated in the TMC2242 digital low pass filter.

The mode of operation of the TMC2242 digital half band filters can be independently controlled using the two DIP switches, SW1 and SW2, provided.

An S-VHS connector is also provided and is directly coupled to the BNCs, therefore care should be taken not to connect inputs to both the BNCs and the S-VHS connector simultaneously.



Analog Front End for the TMC22153 Digital Decoder

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