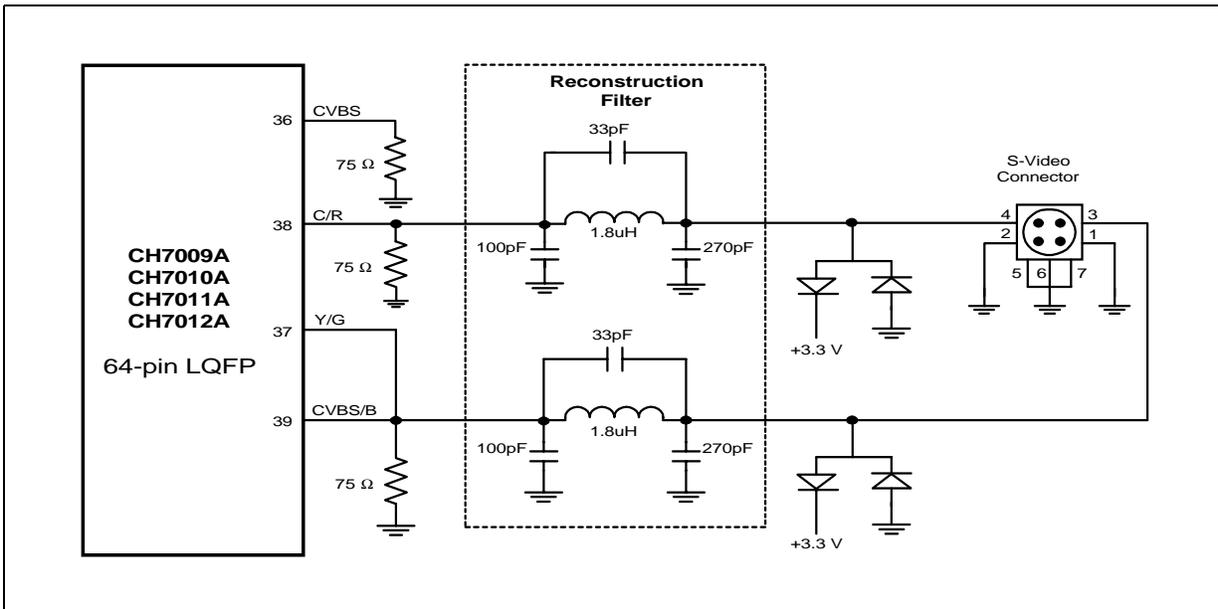


Composite & S-Video in Single Connector for CH7009/7010/7011/7012 Using DACs Switching Method

Introduction

In some application, there is only one video output connection available and simultaneously display of S-Video and Composite is not a concern. In order to provide S-video & Composite signals under this situation, a method which switches luminance signal (Y) of S-video and Composite signals by software has been described in AN-46. An alternative method using DACs switching is described here. The designers may choose either method to best fit to their design.

Circuit Diagram



Note: All the VDD are connected to DAC power supply & GND are connected to DAC ground. Please refer to the data sheet for both VDD & GND pins' number. For PCB layout requirement, please refer to AN-34 (CH7009), AN-36 (CH7011), AN-44 (CH7010) and AN-45 (CH7012).

Software Register Setting

TV Output	Register Setting PM Register 49h
Composite Output	bit 0 FPD = 0, bit 5 TV = 1 and DACPD[3:0] = 1110
S-Video Output	bit 0 FPD = 0, bit 5 TV = 1 and DACPD[3:0] = 1001

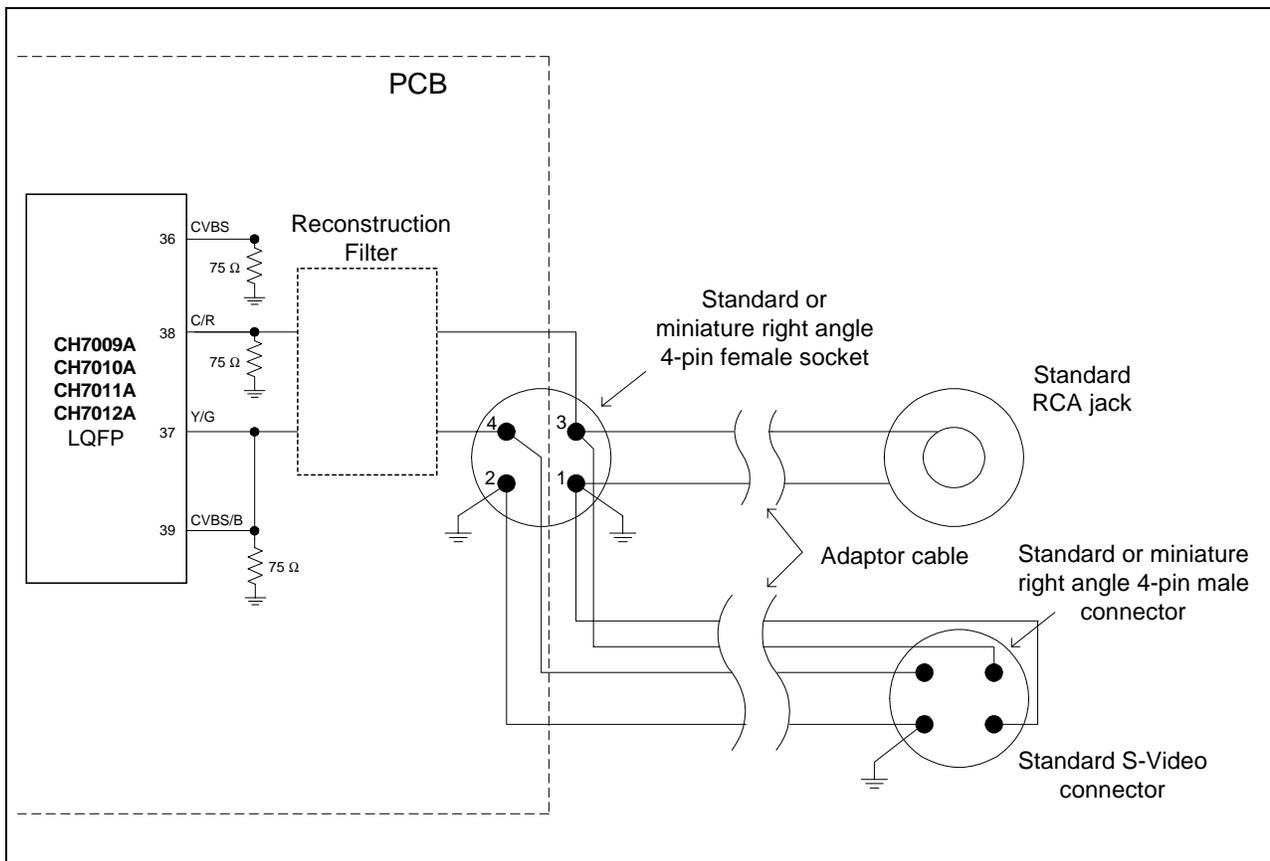
Detection of TV Connection

The detection sequence of TV connection is described as follows:

1. Set the PM register (49h) to enable all DACs except DAC1 (turn DAC1 off).
2. Set the SENSE bit in CD register (20h) to 1. This forces a constant output from the DAC's. Note that during SENSE = 1, the DACs' analog outputs are at steady state and no TV synchronization pulses are asserted.
3. Reset the SENSE bit to 0. This triggers a comparison between the voltage present on these analog outputs and the reference value. During this step, each of the DACs' status bits corresponding to individual DAC outputs will be set if they are CONNECTED.
4. Check DACT connection status bits in CD register (20h).

If DACT2 = 1, S-video is connected;
 else if DACT0 = 1, Composite is connected;
 else, nothing is connected.

Cable Connection



Recommendation: Please refer to Digi-Key or JAMECO for the standard socket & connector. Customer should be aware and consult the cable manufacturer regarding the EMI issue, when the small form factor custom made connectors & cables are required.