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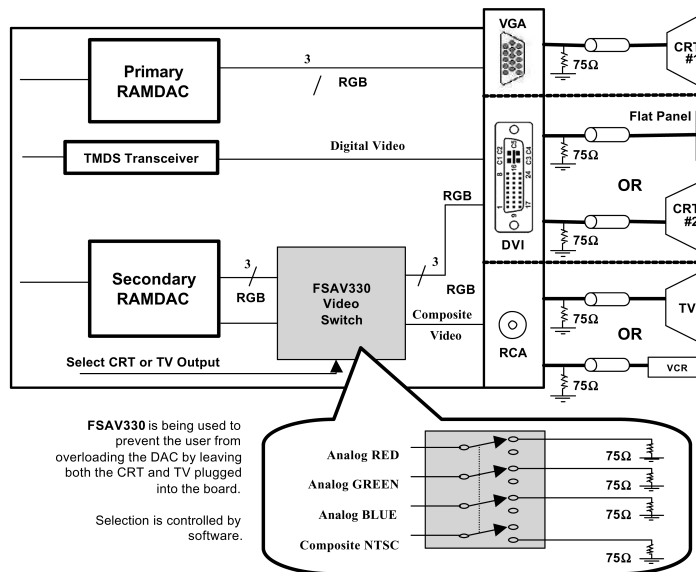
Application Note: Multiple Display Load Isolation Using the FSAV330

As PC gaming, video editing and DVD playback becomes more popular, there exists an increased demand to display PC graphics onto larger TV screens (instead of CRT monitors) or onto multiple CRTs. PC graphics cards are now offering products to meet this demand. In addition, graphics chips have integrated composite video encoding (e.g., NTSC) and digital video interfaces (DVI).

An issue that graphics card designers will encounter in a multi-display environment is that of increased loading of the video RAMDAC output. Display colors are determined by specific voltage levels from the DAC into 37.5Ω (75Ω doubly terminated) per the RS-343 standard. Adding terminations and/or large R_{ON} analog switches would require the use of additional buffer/amplifiers driving up cost and complexity.

Increasing this load will not only violate graphics chip specifications but will deteriorate the video signal quality resulting in dim, unfocused and/or incorrect color images due to improper voltage levels from the DAC. Image ghosting can also occur due to the possible impedance mismatch seen by the DAC output.

One way to accommodate multiple, simultaneously connected displays to a single graphics chip or video DAC is through the use of a low-power, high-bandwidth, low- R_{ON} analog video switch such as the FSAV330. The FSAV330 is a 4-channel Analog Video Switch and provides the ideal solution for simple switching in, or isolating from, the 75Ω display load. With a flat R_{ON} of 3Ω and a bandwidth in excess of 180 MHz, the FSAV330 provides an ideal solution.



FSAV330 is being used to prevent the user from overloading the DAC by leaving both the CRT and TV plugged into the board. Selection is controlled by software.

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