

Semiconductor chip validation system for silicon chip design companies

Need

Gone are the days when video was transmitted via parallel interface. Parallel interface has its own disadvantages as data cannot be transmitted at high speed and also cannot be taken to longer physical distance.

There is a huge demand for transferring video data at longer distances as well with the high speed for motion pictures and movie experience. Due to this need a standard called LVDS (Linear Voltage Differential Signaling) was introduced to cater the need of high speed data transmission at longer physical distance.

Aftek's customer needed Aftek to do hardware validation for a chip which they had newly introduced in the market for fast video data transfer. The LVDS standard was implemented in this chip and since this standard was new the verification needed to be done very studiously and carefully.

Expected Feature Set

- CVBS input support for camera and DVD player
- Newly designed LVDS Serliser/Deserliser chip is a heart of the system
- Flexible local and remote setup configuration in firmware for bypassing and inserting Ser/Des chip for video quality validation
- Complete system level validation of semiconductor chip
- Hi-speed Serial video data transmission over single differential pair LVDS
- Touch panel and LCD backlight control via forward and reverse side traffic feature of the chip
- Digital 10.4" TFT LCD panel of SVGA resolution support
- 10.4" four wire resistive type touch panel support
- Bundled firmware for validating complete chip functionality and features at system level
- Immediate applications in Avionics Systems, Airplane Entertainment System, and Car Video System.

Technologies:

- LVDS (Low Voltage Differential Signaling)
- OSD (On Screen Display)

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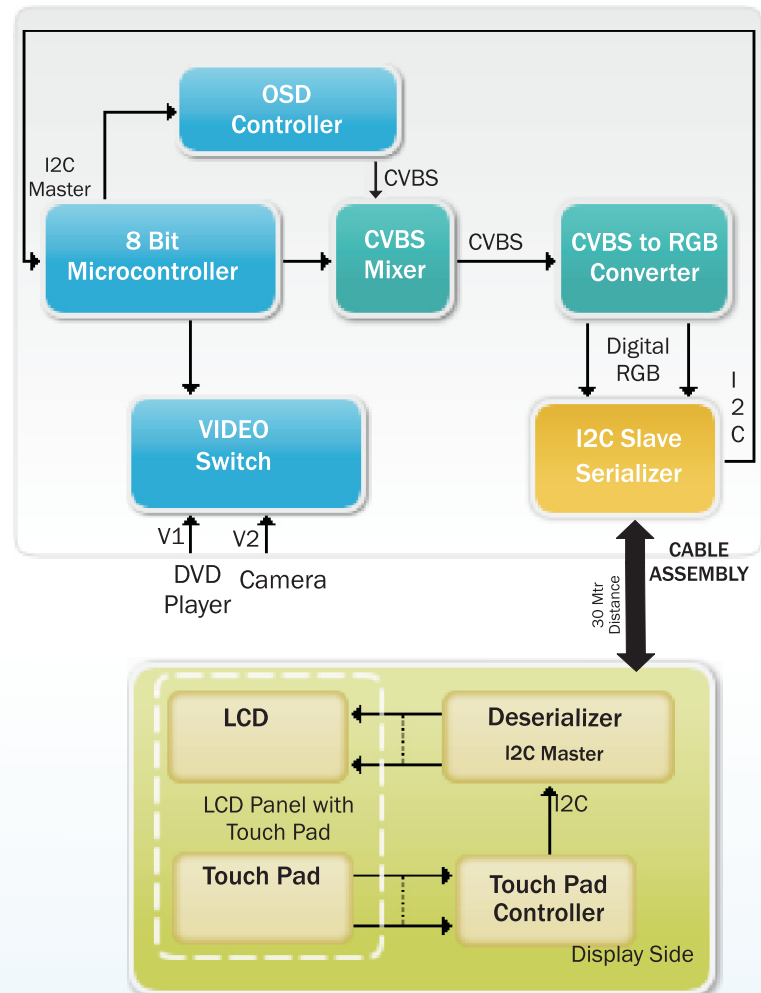
Solution

Aftek meticulously studied the new silicon chip developed by the client for Ser/Dser for complete understanding of the internal details of the chip.

We also created the hardware architecture for validating the system level features of the new chip developed.

We designed and developed new boards which could integrate with the chipset and the standard board provided by the client. By this we were able to interface the chipset with various peripherals like LCDs, cameras and DVD players to test the complete functionality and quality of the chipset

Architectural Overview



Benefits to Client

- Suitable application for the newly designed chip was identified by Aftek in short period of time.
- Demonstration and chip capability setup was available for end customers of client.