



Project Description:

A real-time, multi-channel MPEG encoding and multiplexing system. Each chassis contains multiple dual-channel encoder cards and one re-multiplexer card. Used in cable head-end applications.

Key Features / Project Highlights:

- System Architecture, Hardware Design, Impedance Controlled PCB Layout, FPGA Design, Software Development, Transfer to Manufacturing
- Encoder card design includes two MPEG encode processors, two video overlay engines, a dedicated PowerPC processor and a PCI-to-PCI bridge
- Transport Stream Re-Multiplexer card includes PCI bridge, MIPS processor, packet processing FPGA, and transport stream interface transmitter
- Architected GTL+ Interconnect Bus across custom backplane, supporting up to 12 encoder channels in a single system
- Designed fully-synchronized Video Frame Buffer and Video Overlay Engine with Alpha Blending using Xilinx FPGA and high-speed SDRAM
- Hierarchical PCI bus structure along with distributed multiprocessing isolated heavy bus activity on local busses, minimizing global bus traffic and maximizing system throughput



Diva Systems

About LocoLabs:

LocoLabs is a Sunnyvale, CA provider of custom and turnkey development platforms and modules for embedded designers. It is our mission to accelerate your product development, drawing on more than a decade of experience tackling tough embedded design problems for leading suppliers of consumer, computing and commercial systems.

In our engineering and design work, LocoLabs customers call us the “Rev-Zero” company. With success stories in consumer electronics, commercial robotics, HD video and instantly deployable wireless networking, our experience reinforces the value of fast prototyping and hardware/software co-design. LocoLabs’ cross-trained Embedded, Multimedia, Wireless and Linux experts in our Silicon Valley design center are available to support your rapid product development.

