CVD1

PRODUCT BRIEF

NTSC/PAL DECODER INTELLECTUAL PROPERTY CORE

FEATURES

- Decodes NTSC, PAL or SECAM video into YUV 4:2:2
- Digital video output
- Accepts up to 10-bit inputs from ADCs for high quality video
- Decodes all variations of NTSC video
- Decodes all variations of PAL (I, B, G, H, D, N, M, combination N)
- Requires only two ADCs and two line buffers
- Adaptive 3 - line comb filter for NTSC & PAL
- Adaptive 5 - line comb filter for Pal (optional)
- Clock input range from 20 to 30 MHz
- Time - base correction
- Control port clock independent from master video clock
- Quick time -to- market design turnaround
- Process technology independent design
- CCIR 601 on square pixel output
- Interface to VCO/PLL for continuous clock output
- Generic R/W port for programming of control registers
- Automatically detects and notifies presence of Macrovision signal and decodes in its presence
- Autodetect of video standard
- Autodetect and lock VCR trick mode
- Low power consumption

APPLICATIONS

- Set-top Box
- Desktop Video Capture
- PC Graphics Chips
- Video Conferencing and Video Phones
- Video Editing
- Digital TV

DESCRIPTION

The Zoran NTSC/PAL/SECAM video decoder core (CVD1) is an area efficient, high image quality, cost effective solution for digital video system-on-a-chip applications. The CVD1 core decodes NTSC/PAL/SECAM composite or Y/C video and converts it into YUV 4:2:2 16-bit digital video.

Design Considerations

- Fully synchronous area efficient design - less than 90,000 gates
- Technology independent. Can be synthesized in any 0.5µm. 0.35µm, or 0.25µm CMOS library

Deliverables

- RTL source code
- PLI routines for synopsis VL5 or Verilog X L
- Synopsis synthesis scripts
- Bit accurate C Model
- Test input files
- Documentation
- Golden simulation result files
- FPGA evaluation board

Figure 1. CVD1 Core

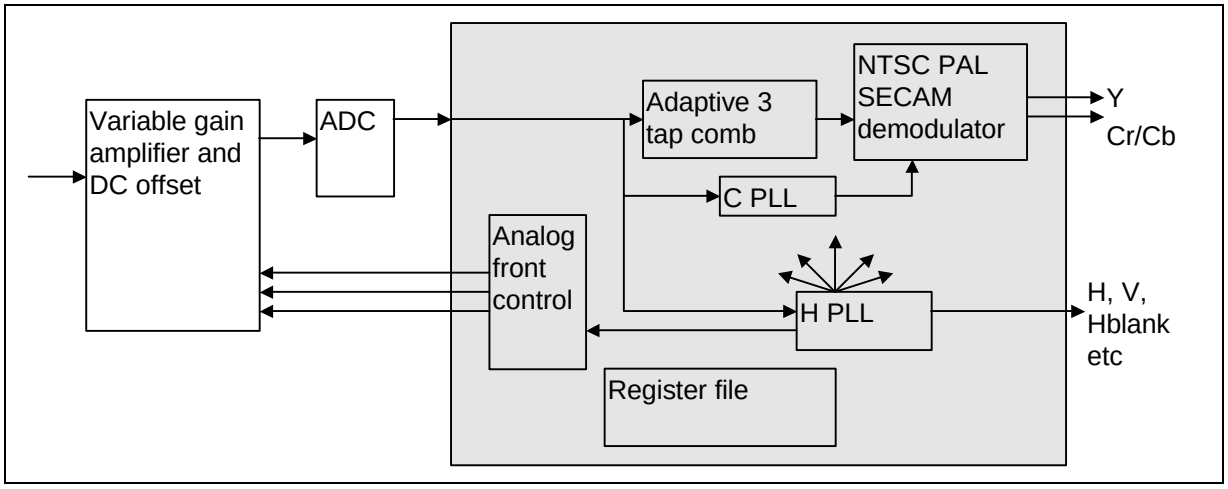
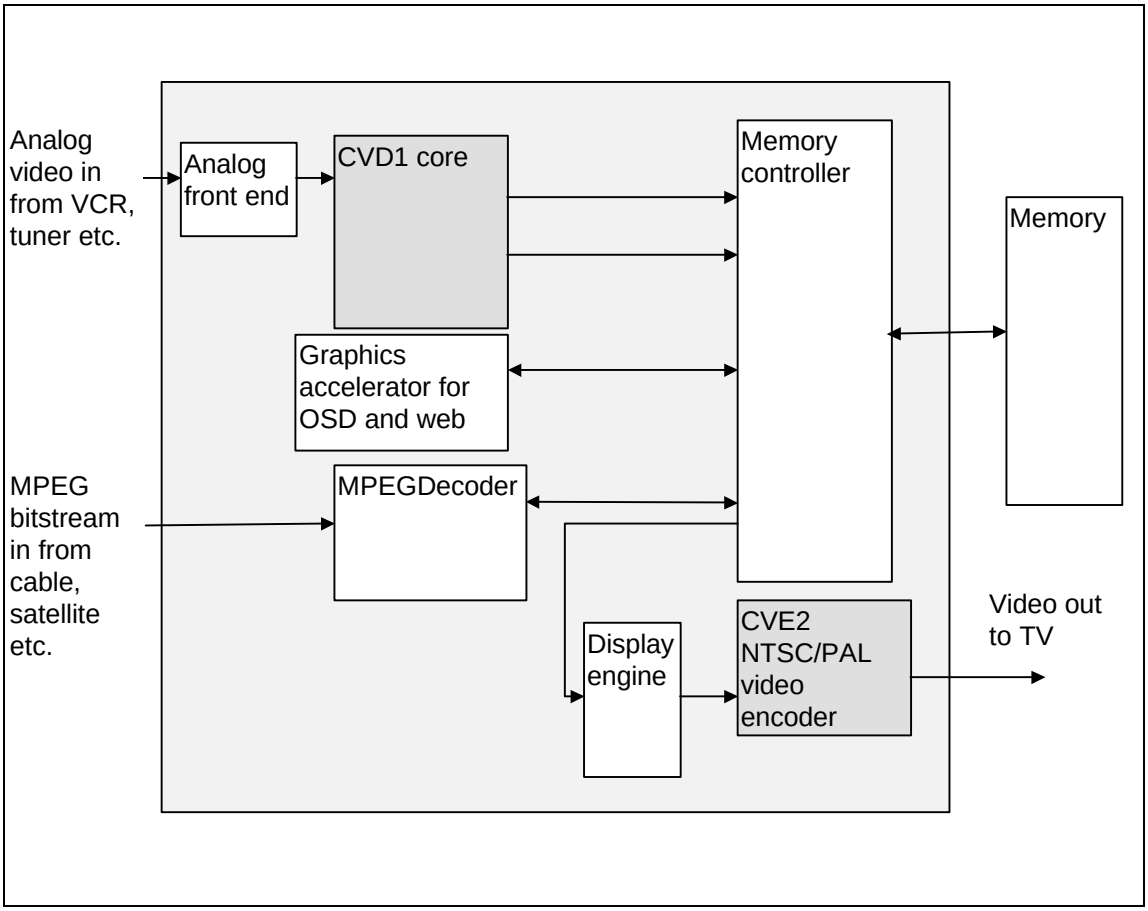


Figure 2. Application as a set top box chip



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