AL250 Product Knowledge

What Is the AL250 ?

- 64 pin single chip scan doubler / de-interlacer

- Highly integrated design with built-in DAC, SRAM, and LUT (look-up-table)

- Built-in on-screen-display with programmable bitmap

- Advanced motion adaptive digital line interpolation

What Does The AL250 Do ?

- Converts interlaced YUV/RGB (NTSC / PAL) into non-interlaced RGB format for output for CRT or LCD monitors

- Corrects color accuracy on different types of CRT

- Removes jagged edge artifacts from motion pictures

- Adds special effects

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What Are the Features ?

- Highly integrated design with built-in DAC, SRAM, and LUT (look-up-table)

- Built-in on-screen-display with programmable bitmap

- Advanced motion adaptive digital line interpolation scan doubling with no tearing artifacts

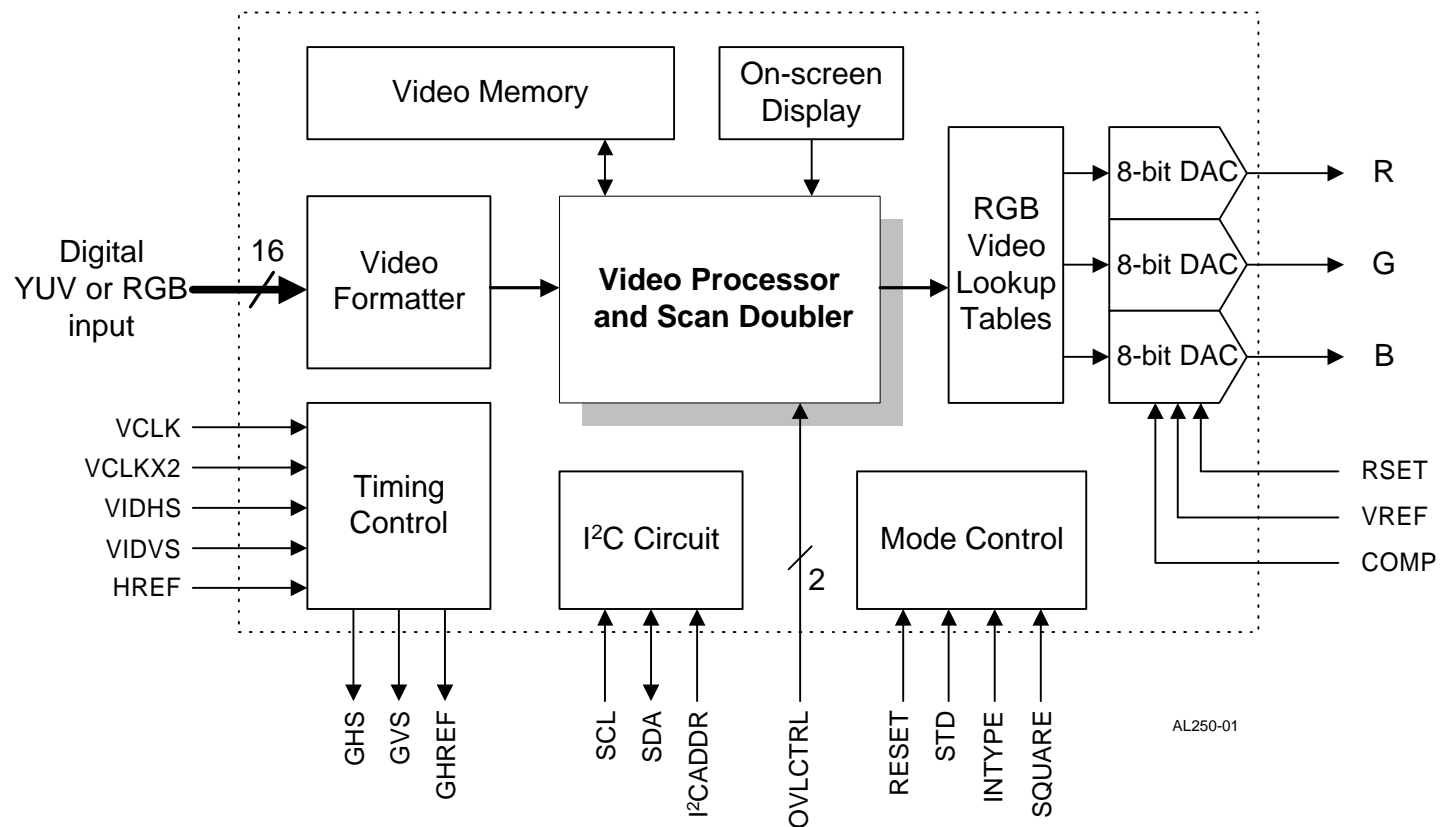- I^2C programmability

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More Detailed Features

- Overlay support for title making and on-screen menu

- Plug & Play (self-initialization)

- Auto NTSC/PAL detect

- Supports both square pixel and ITU-R BT 601 (CCIR601) digital input

- Supports both YUV422 and RGB565

- No external memory required

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What Are The Benefits ?

- Supports multiple formats

- No external memory required

- Fully featured

- Low cost

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AL250 Block Diagram

AL250-01

What Are The Applications ?

- TV-ready multimedia computer monitor

- Progressive scan TV

- TV to PC video scan converter box

- Video game station

- DVD player

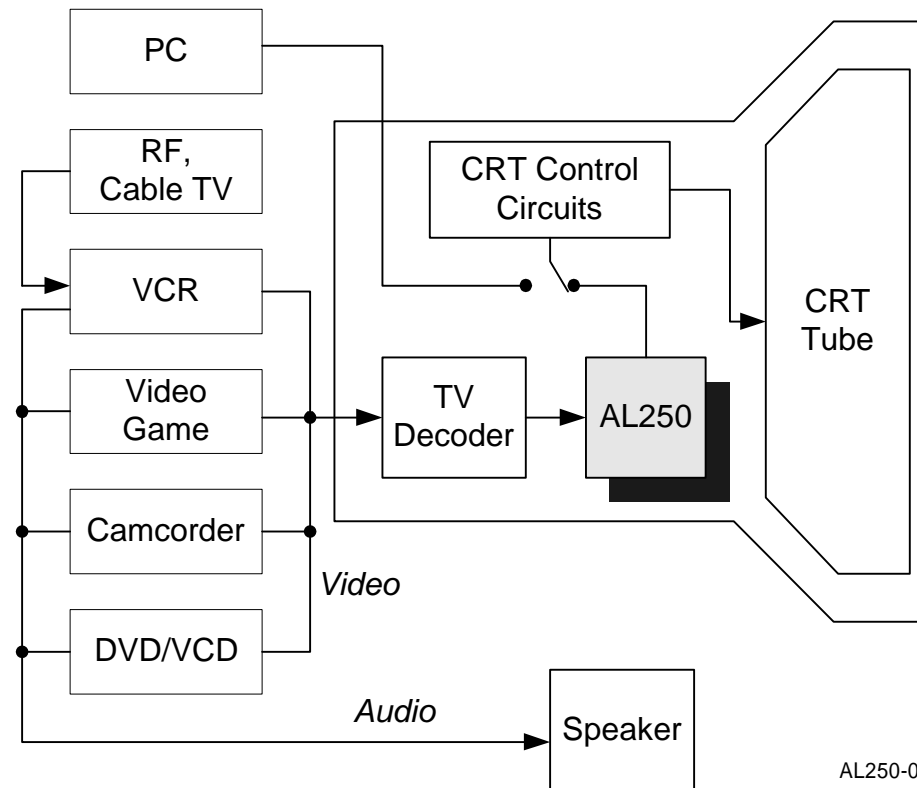- LCD TV monitor

- Portable DVD / VCD player

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TV Ready PC Monitor
Basic Model

- To allow a regular PC monitor to display television or video input you just need to add a de-coder and the AL250

- The sound channel (speakers) remain separate

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TV Ready PC Monitor
Basic Model

PC	
RF, Cable TV	CRT Control Circuits
VCR	CRT Tube
Video Game	TV Decoder → AL250
Camcorder	
DVD/VCD	

Video

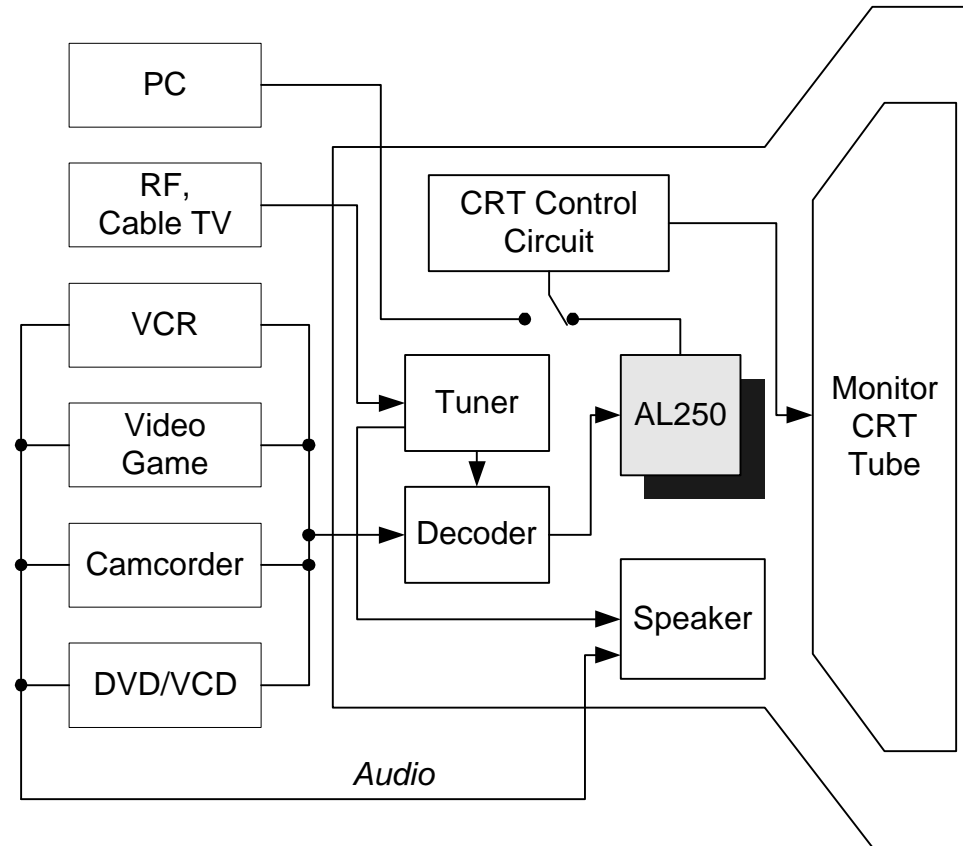*Audio* → Speaker

AL250-07

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TV Ready PC Monitor
Advanced Model

- To allow a regular PC monitor to become a fully featured television it is necessary to add a tuner, de-coder, an AL250 and internal sound system / speakers

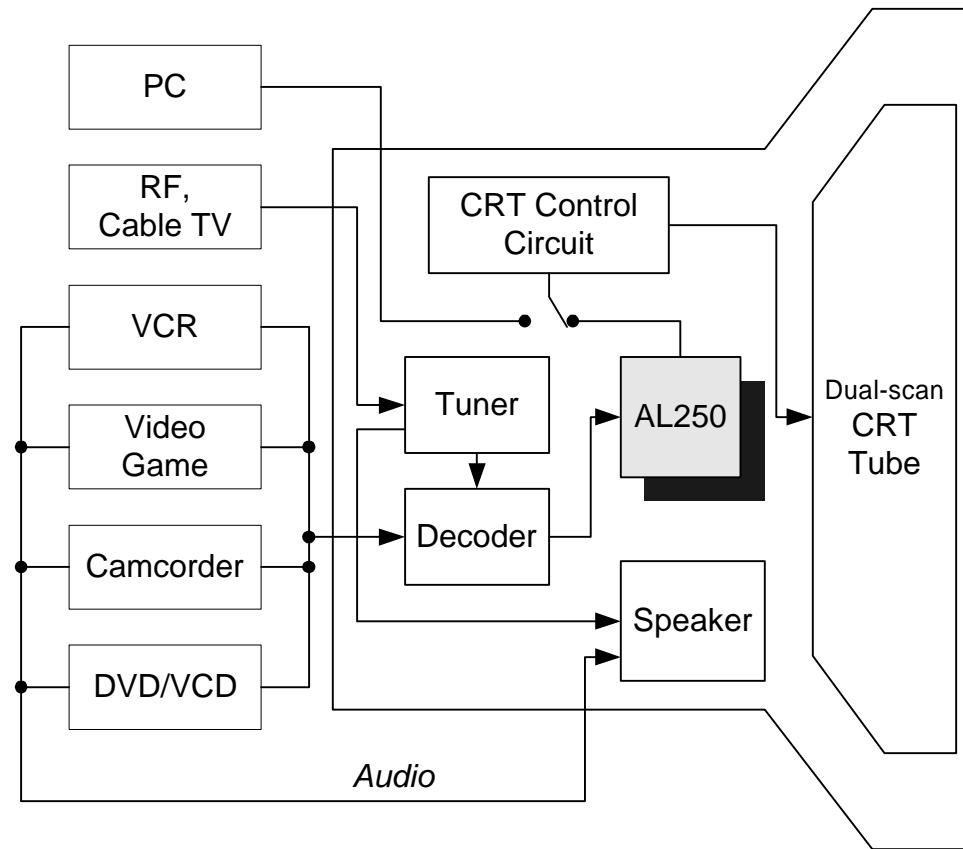**AVER**LOGIC

TV Ready PC Monitor
Advanced Model

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Progressive Scan Television

- The AL250 single chip scan doubler is located between the televisions de-coder and CRT control circuit in a progressive scan television
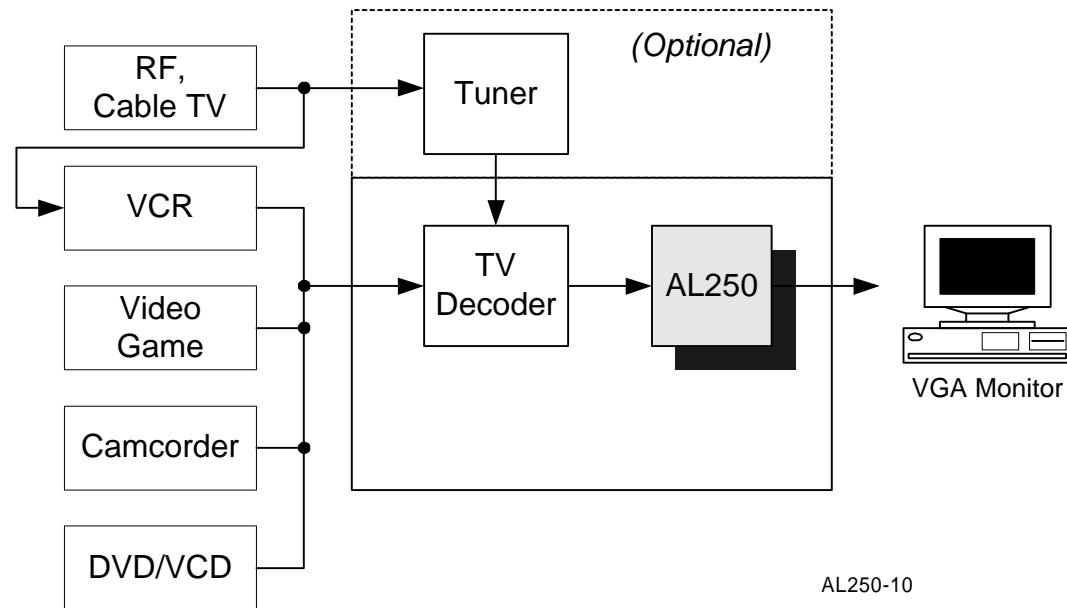
Progressive Scan Television

AL250-09

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Stand Alone Converter Box

- For stand alone converter boxes a de-coder is used with the AL250 while power is supplied from a separate power adapter

- An optional tuner provides the capability for a stand alone box to become a complete screen-less television which can work with any standard PC monitor

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Stand Alone Converter Box

RF, Cable TV → Tuner (Optional)

VCR

Video Game

Camcorder

DVD/VCD

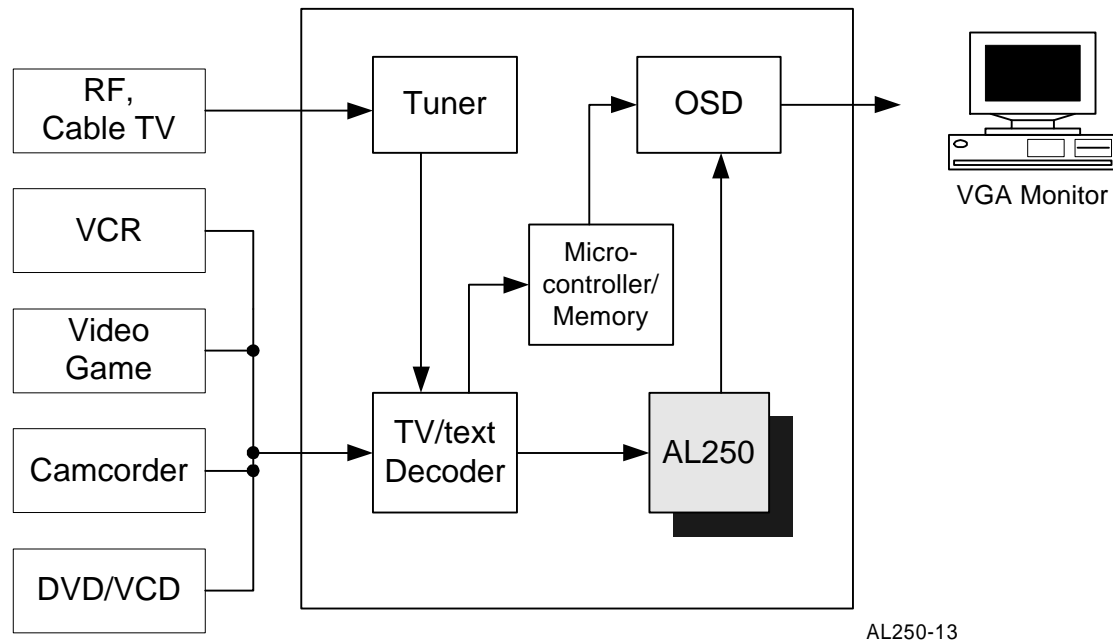Tuner → TV Decoder → AL250 → VGA Monitor

AL250-10

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Stand Alone Converter Box
With Closed Caption and Teletext

- In addition to the tuner option, a closed caption presenter is possible by adding a micro-controller and OSD (on-screen display) chip to an AL250 based stand alone box

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Stand Alone Converter Box
With Closed Caption/Teletext
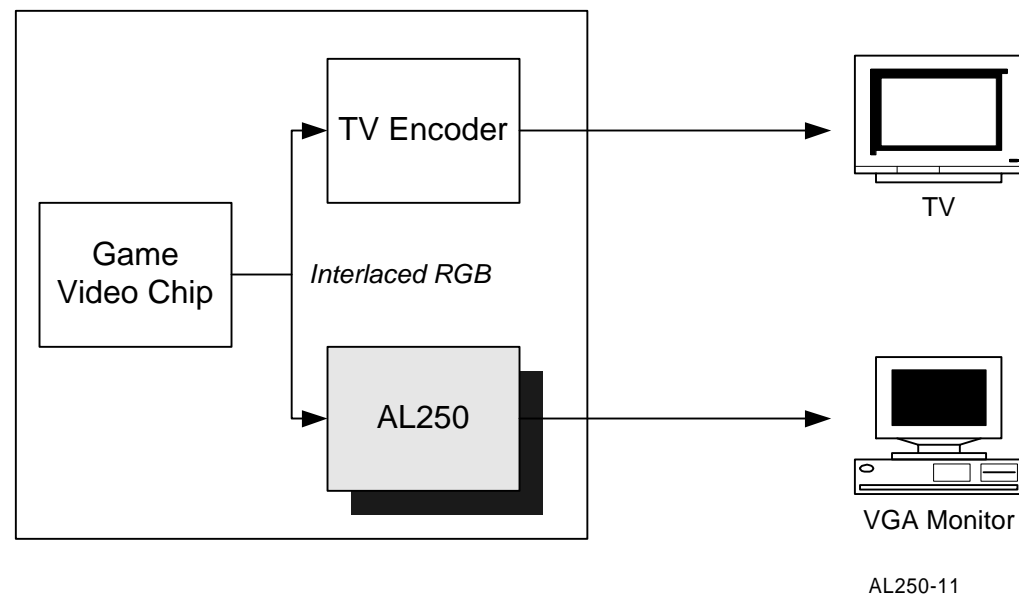

AL250-13

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Video Game Station

- By incorporating an AverLogic AL250 into a regular game station, the market appeal of that product is dramatically increased by allowing a user more options of where and when to play

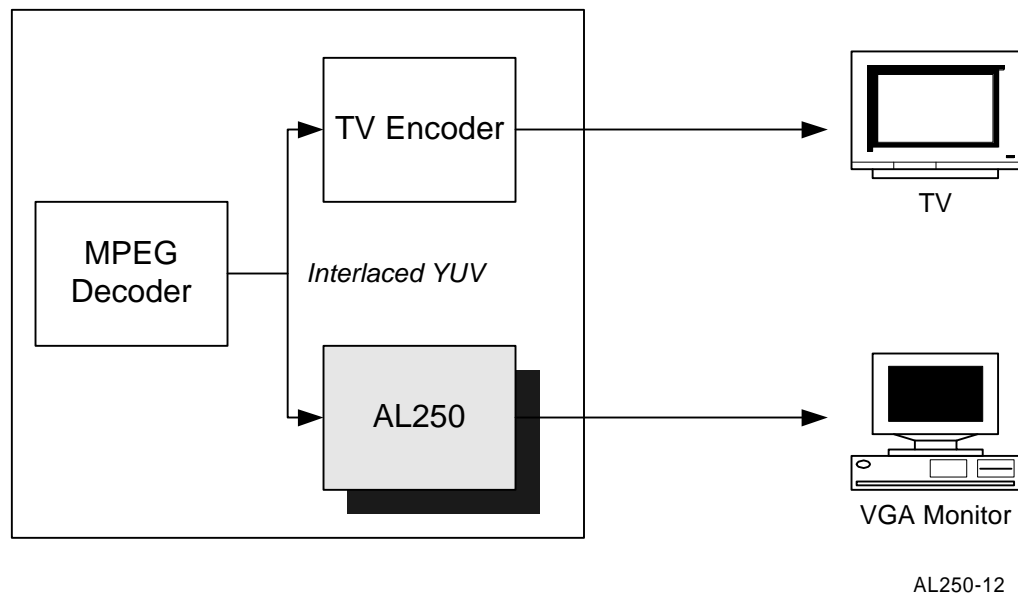- Although the television is the primary choice for play, all monitors become plug and play

Video Game Station

AL250-11

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DVD and VCD Player

- By incorporating an AverLogic AL250 into a regular DVD or VCD player, the market appeal of that product is dramatically increased by allowing a user more options of how to view their discs

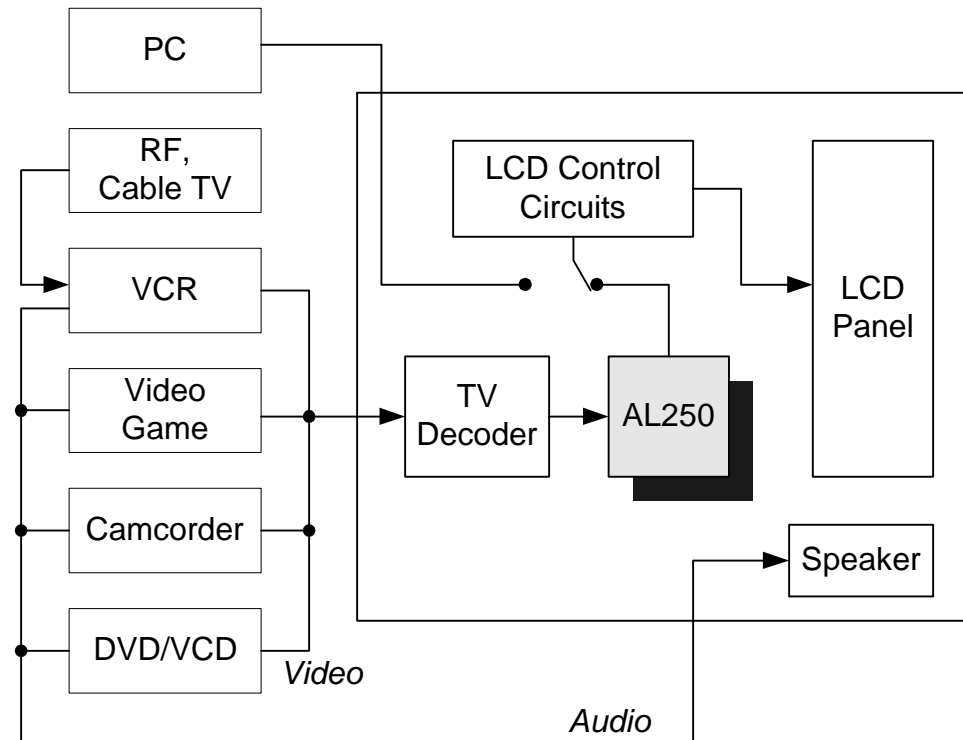- Although the television is the primary choice for viewing, monitors increase flexibility

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DVD and VCD Players

TV Encoder

MPEG
Decoder

Interlaced YUV

AL250

TV

VGA Monitor

AL250-12

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LCD TV Monitor

- To allow a regular LCD to display television or video input a de-coder and an AL250 needs to be added

- The sound channel (speakers) may remain external or be built in to provide a more integrated solution

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LCD TV Monitor

PC

RF,
Cable TV

VCR

Video
Game

Camcorder

DVD/VCD

Video

Audio

LCD Control
Circuits
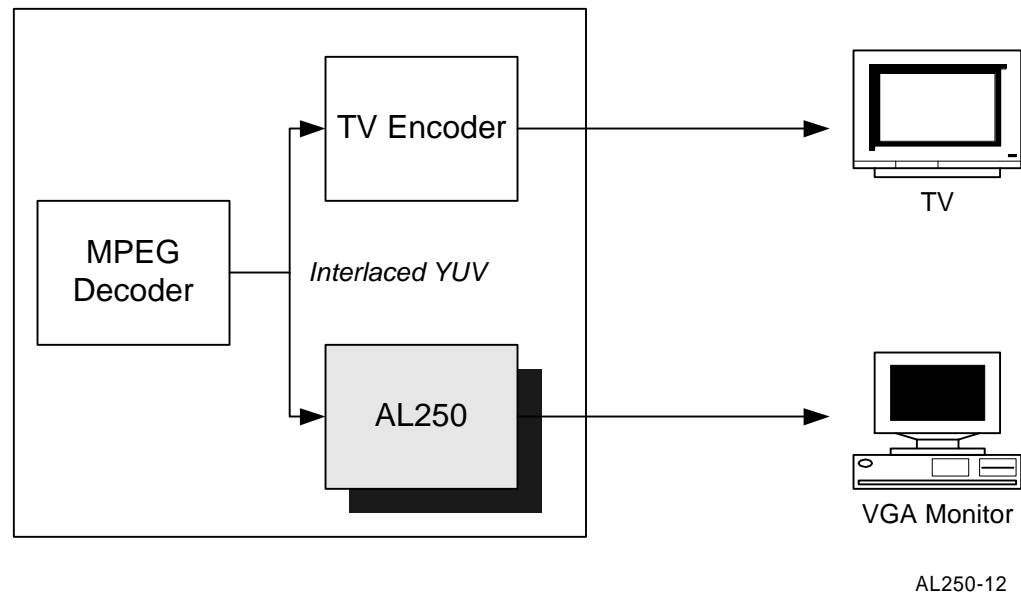
LCD
Panel

TV
Decoder

AL250

Speaker

AL250-14

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Portable DVD and VCD Player

- By incorporating an AverLogic AL250 into a portable DVD or VCD player, the market appeal of that product is dramatically increased by allowing a user more options of where and when to view their discs

- Although the television is the primary choice for viewing, monitors increase flexibility

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Portable DVD and VCD Players

TV Encoder

MPEG
Decoder

Interlaced YUV

AL250

TV

VGA Monitor

AL250-12

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Promotional Tools

- An evaluation kit is available. The kit includes :
  - AL250 evaluation board
  - Data sheets
  - Application notes
  - Power adapter
  - S-video and composite cables

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Sample Chips and Support

- Sample AL250 chips are available upon request
- AverLogic are pleased to assist all customers with layout and implementation of the AL250
- Support is also offered for evaluating and/or de-bugging of prototype boards using the AL250 scan doubler

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