

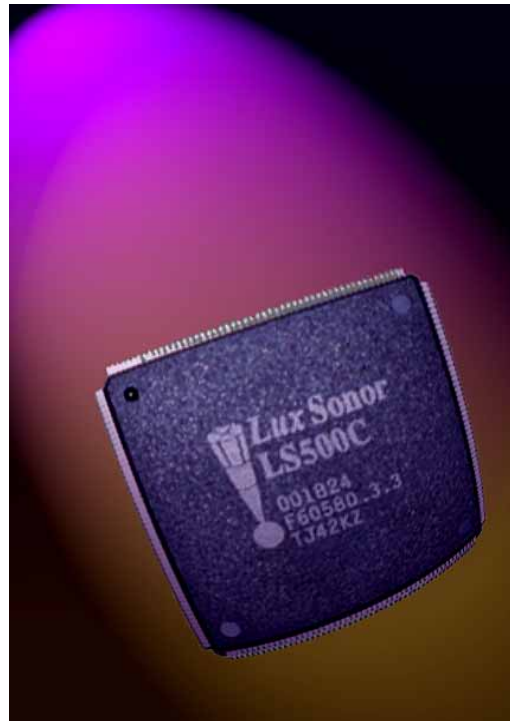
The LuxSonor LS500C

A Highly-Integrated Solution for a Full-Featured DVD Player

The LuxSonor LS500C is the most integrated DVD IC solution on the market. The LS500C, a loader, memory and a few mixed signal components are all that is required to build a quality DVD player. Low to mid-range solutions can capitalize on the LS500C's superior system-on-chip integration to decrease system cost. High-end solutions can use the LS500C to offer advanced features such as Picture-in-Picture technology and MP3 decoding.













Highly Developed Software Provides User-Friendly OSD and GUI

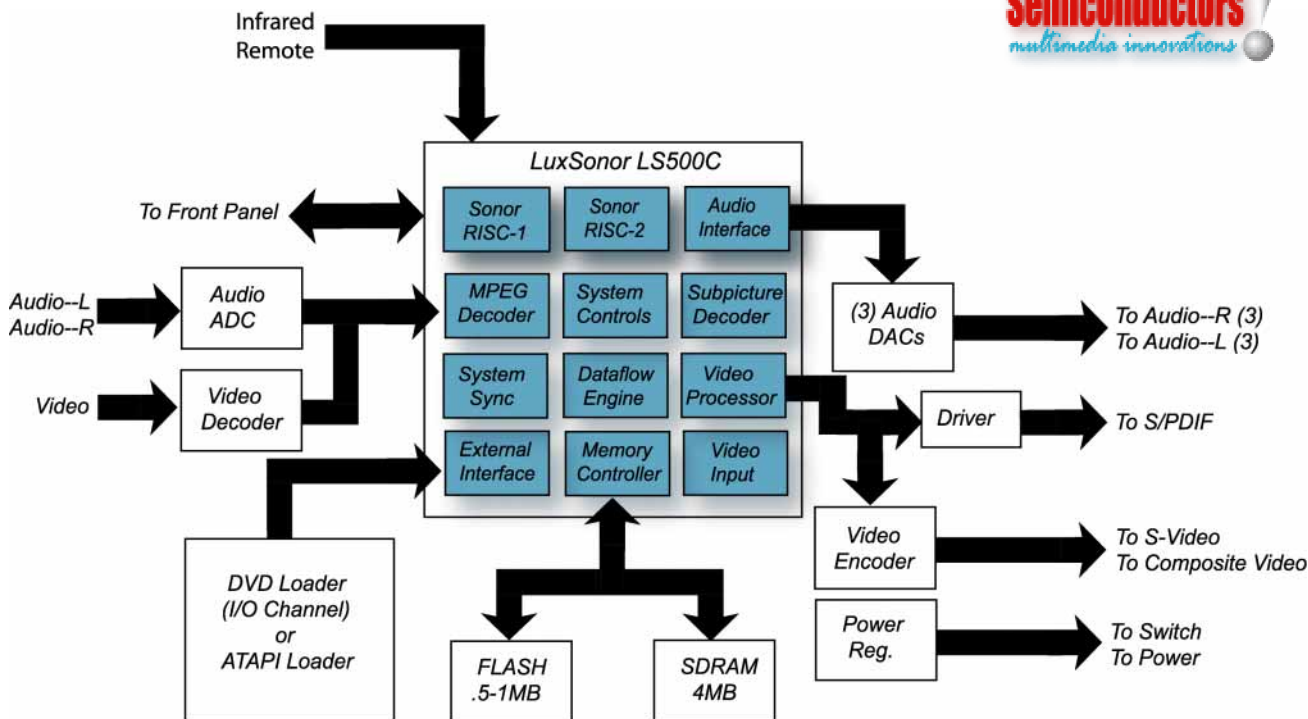
Equipped with an intuitive On-Screen-Display (OSD) and Graphic User Interface (GUI), the LS500C provides a high level of functionality in DVD menu control and interaction. The LS500C's optional software customization allows each of our customers to differentiate their product in one of the fastest growing and competitive markets today. With high quality software integration, super on-chip integration for low manufacturing costs, and next generation technology such as Picture-in-Picture and MP3 decoding, the LS500C provides the most complete DVD solution for today's consumers.



The LS500C is a highly-integrated System-on-Chip solution that provides powerful processing for both set top DVD players and portable DVD solutions.

Key Features

-  **32-Bit RISC Processor Design for Extra Performance**
-  **Internal DSP supports AC-3, MPEG, and MP3 audio standards**
-  **DSP reserve bandwidth handles 5.1 down-mix and karaoke echo mix & pitch shift**
-  **MPEG decoder supports VCD, VCD 3.0, SVCD, and DVD video standards**
-  **Flexible interface connects ATAPI, local bus or u-less DVD loaders without external logic**
-  **Powerful Graphic Engine with Advanced Vertical Flicker Filter**
-  **Advanced sub-picture unit handles DVD and SVCD, and PAL<->NTSC scaling**
-  **8-bit multi-region OSD**
-  **Video Input with Picture in a Picture for Interactive TV**
-  **2 Channel audio input from ADC for karaoke or IEC-958 receiver**
-  **Super On-Chip Integration for Low Cost and Low Count Bill of Materials**
-  **Low power consumption ideal for portable solutions**



LS500C Device Details:

System Characteristics

- Powerful 32-bit RISC processor
- Sub-picture Processor
- System time clock (STC) for audio/video synchronization
- 208-pin PQFP package.
- All I/O pins are 3V with 5V tolerance.
- Advanced 0.25 micron CMOS technology.
- Chip runs at 81 MHz
- Supports Low power modes and clock shutoff.

MPEG Video Decoder

- Supports VCD, VCD 3.0, SVCD, DVD video standards.
- Supports trick features, including smooth 2x play and reverse play.
- Special anti-tearing logic controls picture decode and presentation.
- Advanced error concealment hardware.

Video Processor

- Supports 24 bit 4:2:0 and 4:2:2 YUV video modes, and 16 bit RGB true color graphics modes.
- On screen display module supports 2-bit, 4-bit, or 8-bit pixel modes. It supports 3 separate regions and 16 transparency overlay levels.
- Picture-in-picture module includes horizontal and vertical downscaling. Supports programmable output sizes, positions, and borders.
- 5 taps programmable adaptive anti-flicker filtering for Graphics source.

Memory Controller

- Supports SDRAM, and SGRAM, from 2MB to 32MB.
- Supports multiple banks of FLASH and ROM up to 32MB.
- 32-bit data bus for DRAM, 8 or 16 bit data bus for ROM..

Video Input

- NTSC/PAL video decoder input interface.
- Video input image can be displayed in small window, or as main picture

External Interface

- Serial I2C master and slave port.
- Hardware assisted support for infrared remote devices, such as remote control, infrared keyboard, mouse, printer, and more.
- Programmable parallel host master interface supports many formats including ATAPI, ISA, and more.
- IO channel interface supports standard DVD loader protocols

Audio Interface

- 8 output channels, 2 input channels.

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