ZiVA™-5 DVD System Processor

SUPER INTEGRATION FOR DVD

Building on LSI Logic’s feature-rich and mature ZiVA™ decoder technology, the ZiVA-5 DVD system processor enables powerful new features and integrates multiple DVD system components onto a single chip. ZiVA-5 provides full compatibility with DVD-Video, DVD-Audio, DVD-VR, Chaoji-VCD (CVD), SuperVCD, VCD, CD-DA, and CD-ROM formats like MP3.

ZiVA-5 incorporates an enhanced video encoder with five, 54 MHz high-precision video DACs. The video encoder supports PAL, NTSC, and 480P signaling and is fully programmable for color saturation, contrast, brightness, and sharpness. The video outputs are compliant with both Macrovision 7.1.L1 for interlaced video (NTSC, PAL) and Macrovision AGC 1.03 for Progressive Scan (480P).

A track-buffer processor is integrated on-chip to parse, frame, and perform error processing on all DVD and CD sector types.

HIGH PERFORMANCE

ZiVA-5 incorporates a high-performance 32-bit SPARC CPU with DSP extensions for audio processing and special features. The SPARC CPU incorporates dual execution units, each operating at 150 MHz, making it a superior platform for applications development. The SPARC CPU is designed to act as the DVD system host processor, thus eliminating the requirements for an external host CPU and its associated memory.

ZiVA-5 includes a high-performance 32-bit 2D graphics processor for rendering ergonomic, next-generation graphical user interfaces and graphics-based applications such as Internet browsers, games, and still-picture browsers.

FEATURES

- 150 MHz 32-bit SPARC processor with DSP extensions
- Dual audio DSP architecture
- Proven ZiVA A/V decoder core
- Embedded track buffer processor
- High-performance 2D graphics engine
- Direct connection to multiple DVD drive types
- Full DVD-audio support including MLP decode, CPPM, and audio watermark detection
- Video encoder with five 10-bit, 54 MHz DACs for NTSC, PAL, and 480P signaling
- TrueScan™ field-adaptive de-interlacer for high-quality progressive scan
- MP3 audio codec
- Multiple GPIO

ZiVA™-5 Block Diagram
ZiVA™-5 DVD System Processor

**FLEXIBILITY**

The DVD drive input of ZiVA-5 is highly configurable and can support most serial-stream and parallel-stream type drives, as well as IDE (ATAPI) drives.

ZiVA-5 is the first DVD system processor with the ability to encode digital audio streams into MP3 files. Consumers can now create their own MP3 files without a PC.

In addition to CSS for DVD-Video, ZiVA-5 provides Copy Protection for Pre-recorded Media (CPPM) and audio watermark detection for DVD-Audio.

**LOWER TOTAL SYSTEM COST**

ZiVA-5’s Unified Memory Architecture (UMA) ensures the lowest possible system memory cost by eliminating costly memory sub-systems scattered throughout the system. The SPARC CPU, track buffer processor, graphics engine, and Audio/Video decoders operate from a single memory sub-system.

ZiVA-5 provides a platform for applications development based on LSI Logic’s C-Ware™. C-Ware is a modular, component-based architecture that enables re-use of applications on LSI Logic’s SPARC-based products, thereby reducing customer design efforts.