

**Product Bulletin**

# Aureus™ High-Speed Audio Encoding DSPs

## System Solution for Ripping, Encoding and Playback

**Key Features**

- High-speed encoding and simultaneous listening improves user experience
- DSP controls all peripherals reducing system cost by eliminating costly microcontroller
- Scalable, modular software and hardware solution allows cost effective implementation
- Comprehensive solution with third-party support enables quick time-to-market

Texas Instruments' Aureus™ family of audio DSPs offers a comprehensive, scalable high-speed encoding system solution for the consumer electronics and automotive marketplaces. Ranging from mini-component audio systems, automotive entertainment systems and high-performance media servers, the Aureus DSP encode solution can be quickly implemented in media systems to enable ripping and encoding at high speeds. Alternatively, the file can be encoded while it, or another file, is playing.

**Enriched User Experience**

With encoding speeds of up to 20× real time, simultaneous playback while encoding, and multiple

simultaneous decoders, the system solution enables a number of compelling user features. The high rate of encoding means consumers will spend less time ripping and encoding their audio to storage and more time listening to it. The simultaneous encode and playback feature allows consumers to enjoy listening to their music while it is being stored. The multiple simultaneous decoders enable features such as users in the front seat of a car listening to and encoding the radio while those in the rear listen to compressed audio from the hard disk drive.

**Cost Effective System**

Based on TI's market-proven TMS320C6000™ DSP core, the

TMS320DA7x Aureus devices offer integrated on-chip resources and software that accelerate product development and reduce system costs by eliminating discrete chips from the product. For example, the Aureus processors can eliminate the need for a costly microcontroller because they interface directly to and control peripherals such as hard disk drives, compact disk loaders or any device compatible with USB. Further, the Aureus DSP has the ability to boot from various types of Flash, such as NOR, NAND and DiskOnChip, eliminating the cost of separate Flash devices for bootloading and compressed audio storage. Audio is ripped and encoded in real time, not copied to memory and encoded later, reducing the overall amount of costly memory needed in a system.

**Speedy Product Development**

The ability to quickly take an idea from concept to product is important for OEMs to be successful. The comprehensive high-speed encoding solution contains all the major software CODECs, system software (see Figure 2) and hardware drivers (see Figure 1) needed to build a complete product.

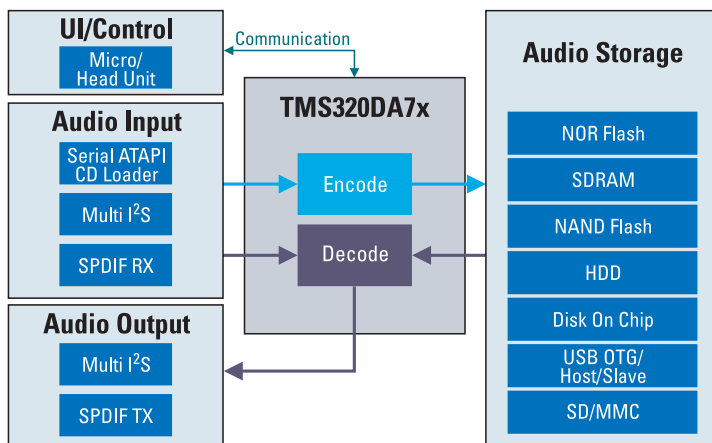


Figure 1. Hardware Interface Support



Software and hardware customization is provided by third parties Mistral Software Inc. and Heartland Data Co. OEMs can simply select the software and hardware components desired in the end product and the third party will return a complete productized solution. Prototyping can begin today on high-speed encoding EVMs from either Mistral Software or Heartland Data.

**For More Information**

For additional information on the Aureus TMS320DA7x family of high-speed encoding audio DSP processors, please visit [www.ti.com/performanceaudio](http://www.ti.com/performanceaudio)

**Figure 2. Comprehensive Solution Support**

Encoders	MP3, WMA, ATRAC3, ATRAC3plus, AAC
Decoders	MP3, WMA, ATRAC3, ATRAC3plus, AAC, Dolby® Digital EX; DTS-ES 96/24; WMA Pro HDCD, DSD-to-PCM conversion
Audio Stream Processing Algorithms	Dolby Pro Logic® IIx, Dolby headphone, Dolby virtual speaker; DTS Neo:6; Double-precision (64-bit) bass management; TI Matrix and Effects processing, TI Bass Boost, TI Virtual Surround, TI Compressed Audio Enhancer
System Software	DSP/BIOS™ kernel, Audio Framework, File System, interface drivers for all supported hardware

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