Performance Audio - Music Database and AV Receivers

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Nowhere is the sound of innovation more apparent than on high quality, state-of-the-art, and surround-sound A/V receivers. Whether the receiver is performing in a high-end, multi-speaker home theater or a luxury automobile, the discerning consumer is demanding the ultimate in sound quality at top value pricing. The same is true for avid, online audio consumers. They are demanding faster, affordable, and easier ways to save music straight to a home server while listening to quality sound.

No matter which end of the digital bitstream – encoding or decoding – TI's new, high-performance audio Aureus™ DSP family lowers system cost and reduces product development time. The new Aureus TMS320DA7x DSP family bundles the hardware and software needed to target every consumer segment and provides unmatched capacity for product customization and differentiation.

With nearly 80 percent of the available performance for customization and differentiation in a typical multichannel decoder system, OEMs can implement product differentiating features on high-end applications like multi-channel audio/visual (A/V) and DVD receivers, set-top boxes, mini-compos and high-definition televisions (HDTV). These features include better quality reverb algorithms for more life-like sound, advanced equalization techniques for better room acoustic correction and true, dual-zone decoding and post-processing for multi-room applications.

Aureus DSPs also are ideal for applications requiring audio decoding and simultaneous high-speed encoding such as DVD recorders, home music servers, and automotive jukeboxes. Using an Aureus device, OEMs can implement simultaneous multi-channel audio decode and up to 16 times real-time encode ("CD ripping") that will ensure consumers get a faster and easier experience. In addition, the new processor eliminates the need for a separate microcontroller by interfacing directly to and controlling peripheral storage resources like hard disks, compact disk devices or any USB interface-compatible device. The DA7x Aureus devices support all of the most popular audio encoders including MP3, WMA8, ATRAC3plus, MPEG2 AAC, MPEG4 AAC LC, and MPEG4 AAC HE (AAC+).

The 32-/64-bit Aureus DSPs are based on TI's widely accepted TMS320C6000™ DSP architecture. For high-performance applications, the devices are designed with large on-chip ROM, RAM, and cache memory and three multichannel audio serial ports (McASP) for efficient product development. The DA7x family has full software support including the comprehensive Performance Audio (PA) software suite that is based on TI's system-level Performance Audio Framework (PAF), an effects library, decoders, post-processing algorithms and development tools. The PAF enables a variety of powerful capabilities such as auto-detecting incoming bitstreams and a simple I/O control interface. Algorithms can be easily plugged into the framework for quick customization.

For more information on performance audio, see www.ti.com/performanceaudio