



## **Leveraging Modern Technology to Upgrade Digital Audio Systems**

*How can Something that Costs so Little Sound so Great?*

The conventional axiom says that expensive equals better, an idea often embraced in the audio world. But is that always true? Is it possible for something relatively inexpensive to still sound great? Continuing technological advancements within high fidelity audio systems and components are adding a new layer to these traditional ideas.

Take the I2S bus for example. Before its introduction in 1986, there was no standard way for devices to communicate digital audio. That changed when the I2S serial bus interface was designed to specifically communicate digital audio data between integrated circuits. After the standard was established, digital audio systems spread throughout consumer markets and opened the way to new technological advancements and cost efficiencies.

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People often ask which DAC chip is included in their audio component. It's easy to answer that question, but it shouldn't really be the determining factor. While it's important to choose a component with the latest generation premium grade DAC chips, the real differentiator in terms of audio performance comes in the design, in weaving together all of the components along the I2S bus and then through the analog output section.

The first element in front of the I2S bus is often the xCORE-200 digital receiver. The xCORE-200 massively over samples all incoming digital streams and transfers them on

to the I2S bus with absolute jitter free certainty. This technology prepares the bitstream for digital signal processing and digital-to-analog conversion.

Low noise, highly-regulated DC voltages, minimal I2S bus data skew and proper execution of today's advanced features are what really drive the overall performance of an audio system.

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An example of added value through technology is the I2S bus developed by miniDSP and used in their SHD and Flex series of products. This advanced I2S bus incorporates high fidelity chipsets woven together in a precise execution. Following the digital-to-analog conversion, the signal is output using premium grade single-ended balanced circuits.

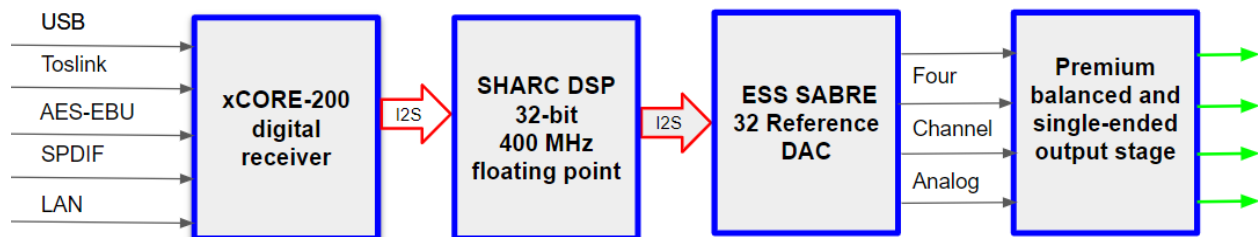


Diagram 1. The miniDSP I2S bus design is incorporated into the SHD and Flex series of products

miniDSP has a reputation for creating high performance digital-to-analog processing systems. They've combined a passion for audio technology with engineering and product development expertise, grounded in a philosophy of providing high fidelity, dynamic products at a reasonable price.

So yes, with the right design and technology, it is possible for something relatively inexpensive to still sound great.

## Support

[Deer Creek Audio](#) is here to help! Please feel free to [contact us](#) with any questions: email at [staff@deercreekaudio.com](mailto:staff@deercreekaudio.com) or call (720) 726-9272.