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SERCE by HEM

First digital audio system on a module

SERCE, all digital processes condensed into a single board

HEM proudly introduces **SERCE**. The name SERCE (pronounced ser-tsuh) is Polish for heart. With SERCE you can focus on designing your product with everything digital already in place, programmed into one single chip. SERCE is a compact module with a complete, advanced digital system built right into it. It offers a complete solution for quality audio playback from a digital input to any DAC chip. SERCE needs no additional integrated circuits to fully operate and will be the easiest way to design a wide range of hi-fi products of very high quality in a very cost effective way.

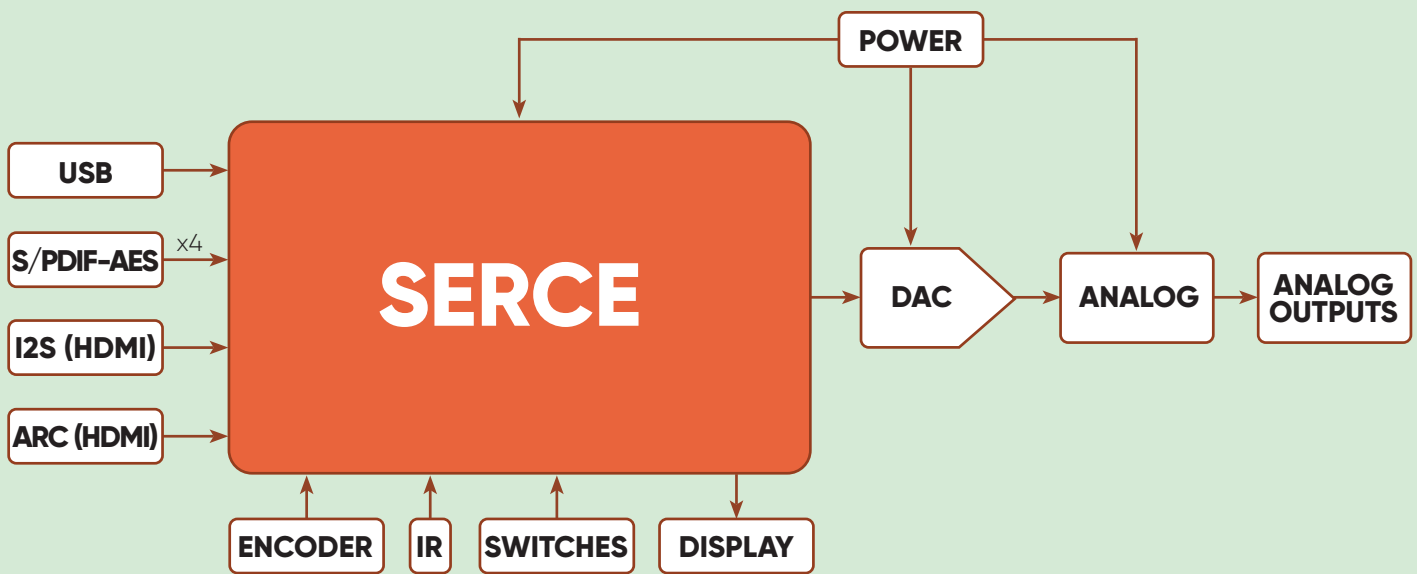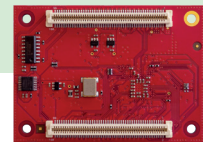|	
Optimised for audio	all digital inputs are optimised for audio, including USB, S/PDIF-AES, and differtential I2S (i.e. HDMI or RJ45). No extra programming needed.
Made for ARM	all digital signals are optimised to work with the ARM Cortex M7 Core processor, including MQA. Again, no extra programming needed.
Digital done well	twenty years' worth of experience in digital audio found its way into SERCE. And yes, no extra programming needed.
One for all	SERCE brings high end quality to a wide range of audio equipment.
Compact form factor	full functionality on just 50 x 70 mm PCB real estate.

SERCE front

SERCE rear

SERCE, brain and heart working in perfect unison

SERCE offers a set of audio-optimised digital inputs that work in unison with a custom programmed ARM Cortex processor. The module measures 50 x 70 mm with all signals connected to board-to-board connectors. It supports PCM up to 32-bits/384kHz and DSD256, includes MQA* (optimized for ARM processor) with full decoder and renderer capability, USB HID, DoP decoding, and signal level calculation. SERCE features USB Audio Class 2.0 input, up to 4 AES-S/PDIF inputs, I2S input on HDMI or RJ45 socket, ARC input with CEC controlling, IR decoder, and internal I2S input for any extension. The ARM processor is a dual core Cortex M4/M7. The Cortex-M7 is dedicated for audio processing and USB including DFU secure updater and custom USB HID port. The Cortex-M4 is for customer applications with access to I2C, SPI, UART, GPIO's. The system is highly configurable including formats, inputs, USB identifiers and names, MQA mode and renderer blobs. Please feel free to inform about specific applications.

Try out SERCE

Evaluation board with connectors AES/EBU (XLR), S/PDIF Coaxial (RCA), S/PDIF optical (TOSLINK), ARC (HDMI socket), I2S (HDMI socket), USB-C, DAC/mainboard socket (2.54 mm pins), IR receiver. This board can be used in end products too.

Evaluation model available: Q3 2022
Production model available: Q4 2022
Price: to be determined.

*MQA is copyright of MQA Ltd. It is necessary to partner with MQA Ltd. to be able to use MQA functions.