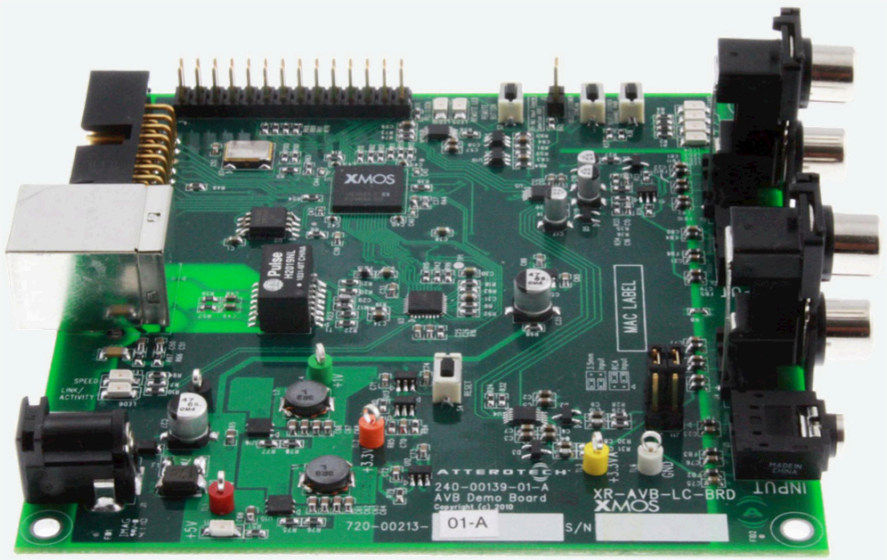
AVB audio endpoint kit

LOW COST AUDIO VIDEO BRIDGING SOLUTION



FEATURES

- **Lowest cost AVB endpoint platform**

  Combines AVB protocols, digital audio interfaces and control software into a single L16 device

- **Unmatched flexibility**

  Addresses uncertainties in the hardware and software specification using simple firmware updates

- **Fastest time-to-market AVB solution**

  Highly configurable reference design using rapid software iterations

  Proven in the field and at AVnu plugfests

With the rapid growth in adoption of AVB for audio transport, audio endpoint solutions must be low cost and production ready. To answer this demand, XMOS and Attero Tech have jointly developed a solution consisting of the flexible XMOS software-only implementation of AVB audio and a low-cost board supporting up to 8 duplex channels of audio.

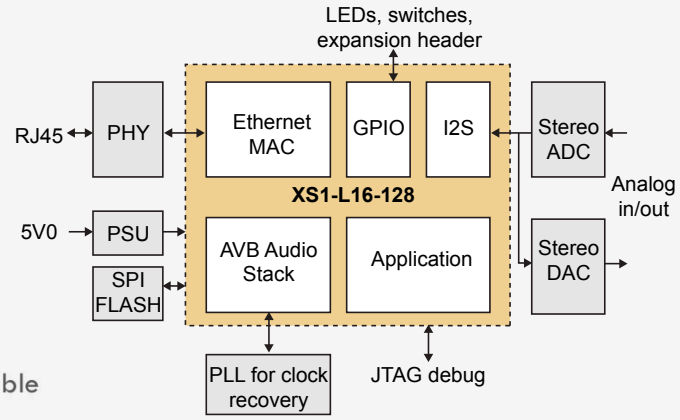
The xCORE XS1-L16 multicore microcontroller is at the heart of the new, commercial-grade reference design and reduces the cost for AVB endpoints by over 50% compared to alternative solutions.

The deterministic architecture of xCORE devices is a perfect match for the low latency, time synchronized nature of AVB. xCORE devices also provide the ability to integrate digital audio interfacing, control functionality using TCP/IP and DSP processing, often required in AVB endpoints such as speakers.

AVB development board

The hardware features include:

- XS1-L16 multicore microcontroller
- Stereo analog audio in/out via 3.5mm jack or RCA sockets
- Up to 8 channels via I2S headers
- Simple sample rate conversion to local clock or high quality clock recovery with PLL
- GP-IO for buttons/LEDs
- Expansion header with 12 spare I/O available



AVB audio firmware software components

IEEE 802.3	Ethernet
IEEE 802.1AS	Timing synchronization
IEEE 802.1Qat	Stream reservation protocol
IEEE 802.1Qav	Flow control
IEEE 1722	Encapsulation protocol
IEEE 1722.MAAP	MAC address acquisition protocol
IEEE P1722.1	Enumeration and control
IEC 61883-6	Audio format for P1722
Ethernet MAC	Network interface
TCP/IP	Control protocol
Zeroconf	Discovery protocol
I2S (including TDM)	CODEC interface
IIC, GPIO	IC configuration and general purpose I/O
S/PDIF, ADAT, DSP processing …	xSOFTip components available from XMOS

ORDERING INFORMATION:

For a list of XMOS distributors, please visit www.xmos.com/support/distributors.

The software framework is free of charge with source code available under a royalty free license from XMOS.

Part number	Contents
XK-AVB-LC-SYS	Two AVB boards, two Ethernet cables, two power supplies, an xTAG2 debug adapter and a demonstration binary

XM-000437-PB-5/130521