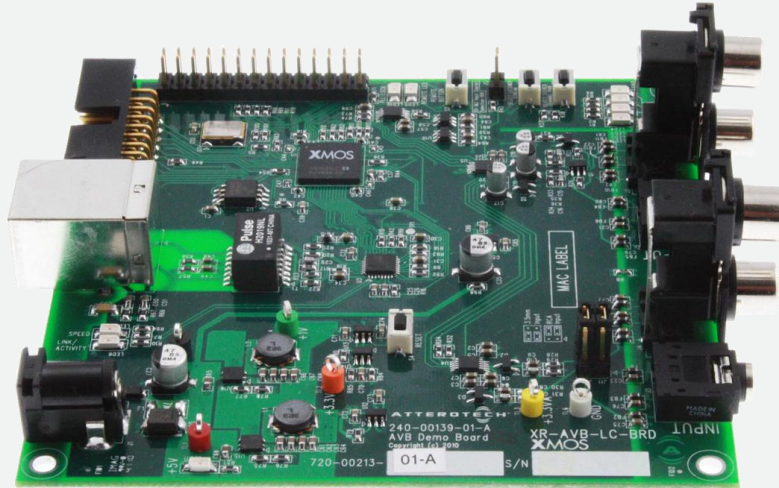


## AVB AUDIO ENDPOINT REFERENCE DESIGN

Ethernet AVB Audio Endpoint platform



### FEATURES

- **Complete hardware and software AVB audio reference design**
  - 100Mbit Ethernet ports
  - Simultaneous talker & listener
  - 8 channel input and output
    - 2 channels as analog (in & out)
    - 6 channels as I2S (in & out)
- **AVB standards compliant**
  - Time synchronization: 802.1AS
  - Traffic shaping: 802.1Qav
  - Bandwidth reservation: 802.1Qat
  - Media transport: IEEE 1722
  - Discovery and management: 1722.1
- **Bit perfect AVB audio transfer**
  - 8 channels in & out at 48kHz, 24bits
  - 4 channels in & out at 96kHz, 24bits
  - PLL recovery of AVB media clock
- **Royalty free software stack**
  - Provided as source code
  - Freely available development tools

To address the rapid growth in adoption of AVB for audio transport 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.

Powered by xCORE™ flexible multicore microcontrollers, the AVB software stack is configurable. This allows you to choose the number of streams and audio channels, sample rate and interfaces to external devices. It is even possible to integrate DSP processing and housekeeping functions using spare logical processing cores, providing a compact yet complete solution for a wide range of audio applications.

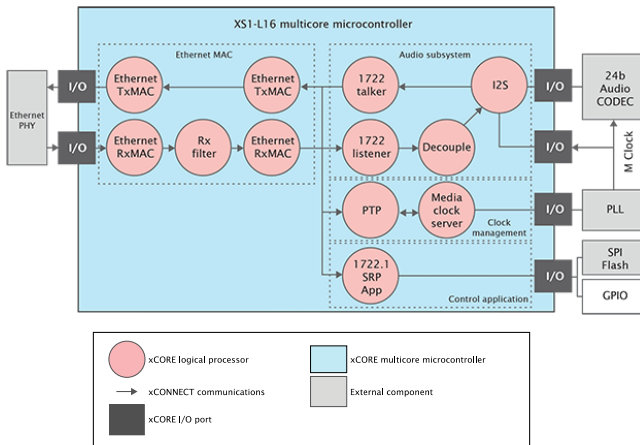
Thanks to the maturity and wide-spread adoption of the XMOS AVB solution and active participation in AVnu plugfests, our AVB endpoint delivers the compromise-free audio networking promised by AVB.

Backed up by our flexible hardware platform called sliceKIT, xSOFTip soft IP blocks, comprehensive documentation and examples, the AVB Endpoint solution offers the easiest way to implement your AVB enabled audio product.

## ARCHITECTURE

The AVB Endpoint design consists of an Ethernet MAC with packet forwarder, audio subsystem, network & media clock management and system control.

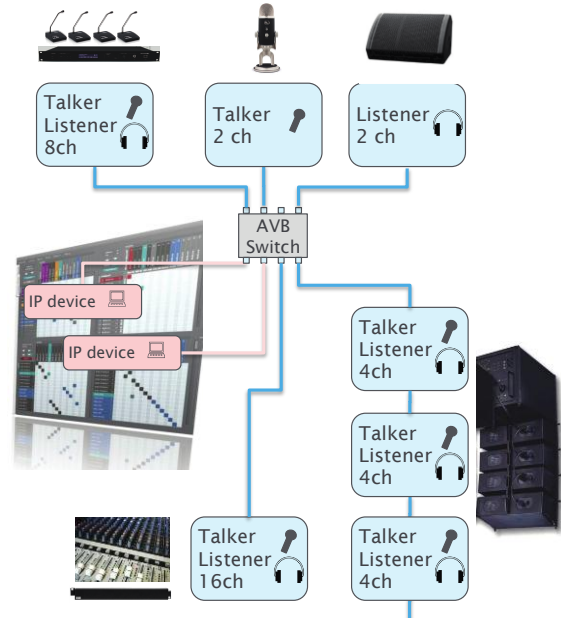
All functions, including the network, clocking and audio interfaces, are implemented as software IP running on logical cores inside the xCORE device; allowing for system customisation using C.







## APPLICATIONS

XMOS AVB audio endpoint solutions allow flexible star and/or chain network topologies and are ideal for many applications, such as:

- Line array speakers
- Conference microphones
- Wireless base stations



|   | Feature  | Benefit   |
|---|--|---|
| AVB   | AVB standard compliant endpoint  | Plug-and-play operation<br>AVnu plugfest proven interoperability with other vendors                                 |
|  | Multi-channel audio input and output<br>Digital and analog audio formats | Ideally suited for networked audio applications, such as:<br>professional audio, conferencing or automotive         |
|  | Powered by xCORE multicore microcontroller                               | Flexible, deterministic and responsive processing power<br>Single device multicore microcontroller – low system BoM |
|  | Flexible hardware & software platform                                    | Predefined feature set reference design<br>Easily customizable to meet specific product requirements                |
|  | Source code reference software<br>Integrated development tools suite     | Rapid development and code reuse<br>Royalty-free deployment. Fast time to market                                    |

## ORDERING INFORMATION

For a list of XMOS distributors, please visit [www.xmos.com/support/distributors](http://www.xmos.com/support/distributors).

| Part number   | Contents  |
|---------------|---|
| XK-AVB-LC-SYS | An AVB Endpoint kit contains two complete AVB endpoints, together with power supplies and cables<br>2x XR-AVB-LC-BRD AVB audio endpoint board<br>2x XA-XTAG2 xTAG2 debugger<br>2x 5V PSUs, 2x Ethernet cables |

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Third party trademarks are hereby acknowledged.  
This is a preliminary product brief, contents are subject to change.

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