

Features

- 16-channel microphone array
- Uniform Rectangular Array (URA)
- 16-channel USB audio output

Hardware

- XMOS XCore200 @ 500MHz
- 16 SPH1668LM4H Knowles MEMS
- Asynchronous USB audio
- Mic array PCB schematics are provided as a reference design

Software Control

- ASIO drivers for Win 7/8/10/11
- Driverless for macOS/Linux
- Compatible with Matlab toolbox
- Firmware upgradeable

Power

- USB powered

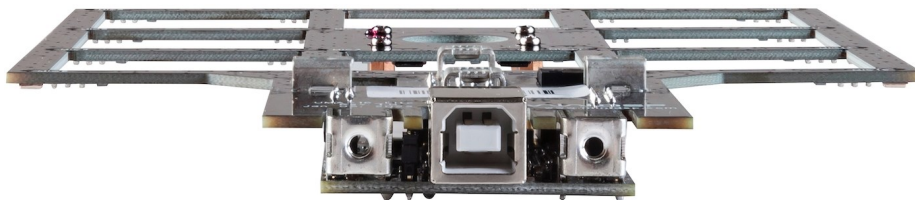
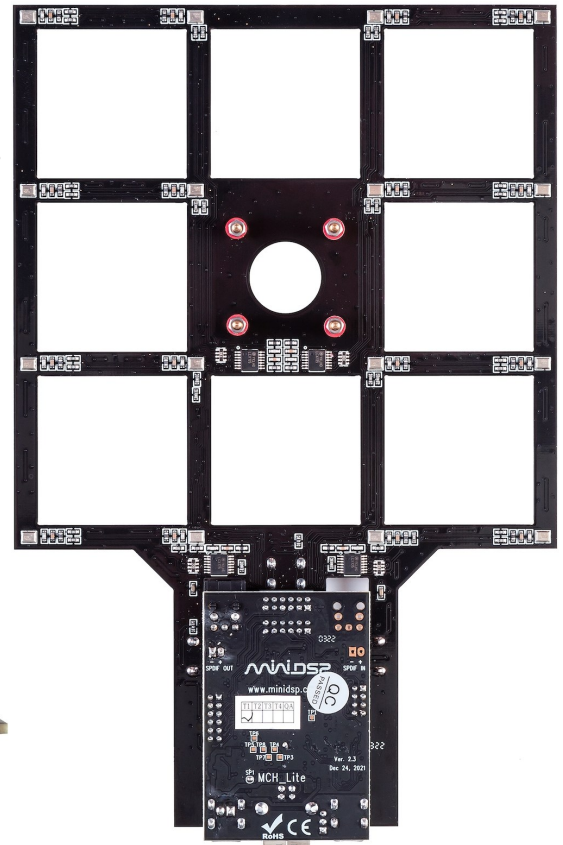
Applications

- Acoustic camera
- Research & Development
- Microphone array

The **UMA-16 v2** is a sixteen-channel microphone array with plug&play USB audio connectivity. With its onboard XMOS interface, the **UMA-16** is the perfect fit for the development of beam-forming algorithms or your DIY acoustic camera. Its system architecture consists of two core elements:

- A microphone PCB with 16 x Knowles SPH1668LM4H MEMS microphones in a uniform rectangular array (URA). A center hole fits an optional USB camera for applications such as acoustic cameras. The microphone PCB is a simple 2-layer design that can easily be customized to your needs by following our schematics included in the user manual.

- Stacked on top of the mic array is the MCHStreamer Lite USB interface. This XMOS XCORE interface allows for a high quality PDM to PCM conversion and presents all 16 channels of raw audio to the USB interface.



TECHNICAL SPECIFICATIONS

Item	Description
USB audio input	XMOS Xcore200 asynchronous USB audio up to 48 kHz, USB Audio Class 2 compliant <ul style="list-style-type: none"> · ASIO driver for Windows · Driverless for macOS
MEMS microphone	16 x SPH1668LM4H - Acoustic Overload @ 120dB SPL / High SNR of 65dB / RF shielded
ADC/DAC Sample rate & Resolution	Resolution: 24 bit Sample rate: 8, 11,025, 12, 16, 32, 44.1 or 48 kHz
USB port	USB port type B for audio streaming
Power supply	Provided over USB
Dimensions (H x W x D) mm	132 x 202 x 18 mm
Mounting	4 x M3 holders for front panel mounting / CAD drawings available on request

MECHANICAL DRAWING

