FAR-FIELD VOICE CAPTURE FRONT END FOR AMAZON AVS

The VocalFusion Dev Kit for Amazon AVS (XK-VF3510-L71-AVS) enables developers of smart home products to evaluate and prototype far-field voice interfaces using the XVF3510 voice processor with the Amazon Alexa Voice Service.

VocalFusion Dev Kit for Amazon AVS (Raspberry Pi not included)

The VocalFusion XVF3510 enables far-field voice capture with close range precision. It's a turnkey solution for developers who want to embed far-field voice control into smart TVs and set-top boxes. XMOS algorithms are purpose-designed to deliver accurate voice capture from across the room, even in noisy environments, and when content is streaming through the device.

Our Interference Canceller works intelligently to 'scan' the soundscape of the room, and 'ignore' typical noises in the surrounding space. Acoustic Echo Cancellation algorithms enable barge-in on hearing the "Alexa" wakeword, while noise suppression removes general background noise to isolate and capture a clear voice command before it is sent to the Amazon Alexa Voice Service client running on a Raspberry Pi.

Our Automatic Delay Estimator dynamically adjusts audio reference signal latency, ensuring the Acoustic Echo Cancellation algorithms work correctly for a smooth, real-time experience. Requiring just 2-microphones, the XVF3510 delivers compelling performance in a BOM efficient package.
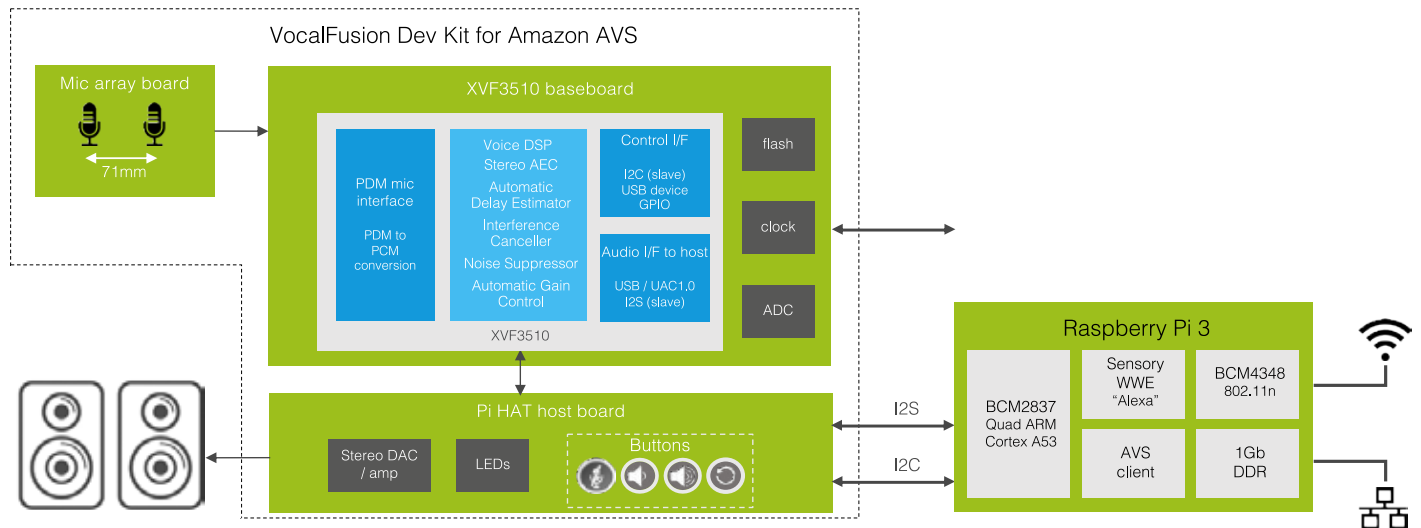
XVF3510 FEATURES

- Far-field voice processing

  Full duplex stereo Acoustic Echo Cancellation (AEC) with barge-in

  Automatic Delay Estimator

  Interference Canceller

  Noise Suppression

- Microphone interface

  2-ch digital PDM microphone interface

  Dual microphone array, 71mm spacing

- Audio interfaces

  High speed USB2.0 compliant device supporting USB Audio Class 1.0 at 48kHz sample rate

  I2S audio interface, 48kHz sample rate

- System control options

  I2C serial control interface

  USB control interface

- 60-pin QFN package

APPLICATIONS

- Smart TVs
- Set-top boxes
- TV accessories

VOCALFUSION DEV KIT FOR AMAZON AVS

VocalFusion Dev Kit for Amazon AVS

- XVF3510 processor base board
  Micro-USB connector for power and USB device connectivity
  Line-in port
  XTAG interface for JTAG debug

- Dual microphone array daughter board
  2x Infineon IM69D130 MEMS mics
  71mm inter-microphone spacing

- Raspberry Pi HAT adapter board
  I2S audio and I2C connectivity
  24-bit stereo DAC
  4 user controlled buttons and two LED

- Requires Raspberry Pi 3 to run AVS SDK and Sensory TrulyHandsfree WWE, and Alexa Developer Account

MORE INFORMATION AND AVAILABILITY

To learn more about the VocalFusion Dev Kit for Amazon AVS and XVF3510 voice processor, please go to: xmos.com/xvf3510avs. The XK-VF3510-L71-AVS kit will be available through XMOS distribution Q3 2019.

Part number	Description
XK-VF3510-L71-AVS	VocalFusion Dev Kit for Amazon AVS
XVF3510-QF60-C	VocalFusion XVF3510 voice processor