XVF3800 VOICE PROCESSOR

CRYSTAL CLEAR VOICE CAPTURE FOR COLLABORATION APPLICATIONS

RELIABLE, FAST TIME-TO-MARKET, COST-OPTIMISED SOLUTION THAT ENABLES MICROSOFT TEAMS™ AND ZOOM™ CERTIFICATION FOR ENTERPRISE AND CONSUMER VOICE CONFERENCING PLATFORMS

With remote working on the upward trend, the demand for high-quality,reliable and cost-effective collaboration solutions has increased significantly. Capturing voice clearly and accurately to ensure efficient communication is essential for conferencing platforms to deliver the near face-to-face experience.

Unlike human ears automatically filtering out background noise, microphones capture the whole soundscape including the surrounding and unwanted noise such as acoustic coupling and room reverberation. That's where XMOS cutting-edge algorithms come in.

The XVF3800 4-mic voice processor incorporates state of the art audio algorithms delivering high quality voice in the most challenging of environments. Multi-adaptive beamforming, echo cancellation, de-reverberation and noise suppression ensures outstanding double talk performance and an optimised voice signal ideal for collaboration applications requiring Teams and Zoom certifications.

The addition of XVF3800 will provide your customers with a cost effective high-clarity voice solution with minimal integration effort. XVF3800 delivers a fast time-to-market conferencing solution ideal for enterprise and consumer conferencing platforms.

FEATURE HIGHLIGHTS

The XVF3800 voice processor includes microphone interfacing, voice processing and control, allowing you to fully optimise voice performance based on the specific product acoustics.

ACOUSTIC ECHO CANCELLATION (AEC)

Acoustic Echo Cancellation removes echo from the microphone audio input while reducing far-end echoes enabling XVF3800 to extract clear voice signals even with high-volume speaker output.

NOISE SUPPRESSION

Noise suppression nulls stationary and non-stationary diffuse noise sources, for example air-conditioning and road noise where the frequency characteristics don't change over time. This enables accurate, consistent voice capture.

ADAPTIVE MULTIPLE BEAMFORMERS

The free-running and focused beamformers track both stationary and non-stationary voice sources, identifying the direction of arrival (DoA) and isolating the voice of interest to enhance double talk and dereverberation performance.

AUTOMATIC GAIN CONTROL (AGC)

The configurable and flexible Automatic Gain Control tunes the output channels for optimal voice communication. Ideal for passing Teams and Zoom certifications.

DEV KIT

XK-VOICE-SQ66

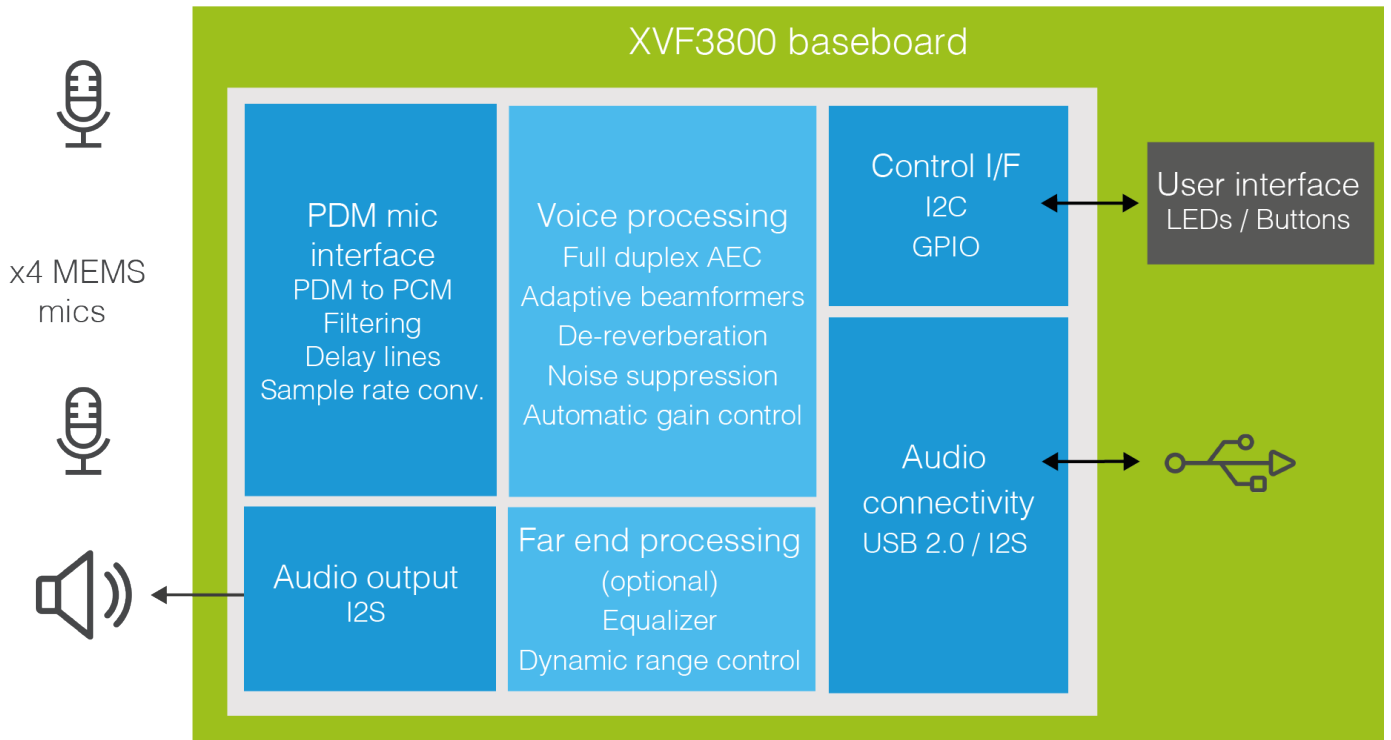**APPLICATIONS**

ENTERPRISE CONFERENCING

VIDEO BARS

PORTABLE SPEAKERPHONES

COLLABORATIVE DISPLAY

XMOS

Bringing technology to life

BLOCK DIAGRAM

XVF3800 baseboard

x4 MEMS mics

PDM mic interface
PDM to PCM
Filtering
Delay lines
Sample rate conv.

Voice processing
Full duplex AEC
Adaptive beamformers
De-reverberation
Noise suppression
Automatic gain control

Control I/F
I2C
GPIO

User interface
LEDs / Buttons

Audio output
I2S

Far end processing
(optional)
Equalizer
Dynamic range control

Audio connectivity
USB 2.0 / I2S

VOICE PROCESSOR | XVF3800

PACKAGE	60-Pin QFN, 0.4mm pitch
VOICE PROCESSING	Acoustic Echo Cancellation
	Adaptive Beamformers
	Noise Suppression
	Automatic Gain Control
MICROPHONE INTERFACE	4 x digital PDM microphone interface
	100mm linear mic array, 33mm inter-mic spacing
	90mm square mic array, 43mm inter-mic spacing

HOST INTERFACE OPTIONS	High speed USB2.0 device supporting USB Audio Class 2.0; 16kHz or 48kHz sample rate
	I2S audio interface; 16kHz or 48kHz sample rate
AUDIO OUTPUT OPTIONS	I2S output to DAC; 16kHz or 48kHz PCM
CONTROL INTERFACE	USB Control Interface I2C Control Interface

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VOICE PROCESSOR

XVF3800

For further information please contact sales@xmos.com

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