

VocalFusion Dev Kit- Getting Started

xmos.com/xvf3510



REQUIREMENTS

- XK-VF3510-L71 Kit
- Powered speakers with 3.5 jack

DOWNLOADS

- <http://www.xmos.com/xvf3510>

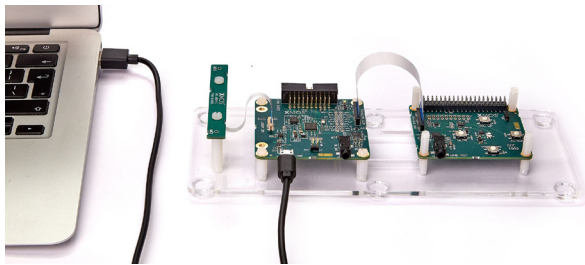
DOCUMENTATION

- VocalFusion Dev Kit User Guide
- XVF3510-QF60 Datasheet

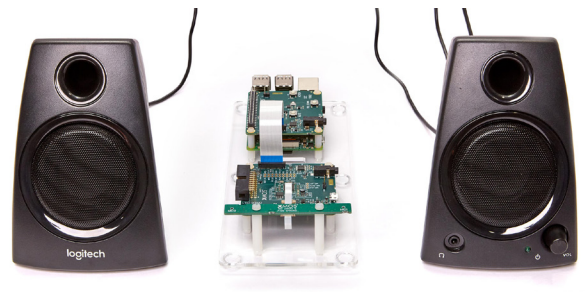
FURTHER READING

- Infineon XENSIV microphone App Notes: AN547, 556, 557, 558

1 CONFIGURE HARDWARE



Connect the host PC to the micro-USB socket on the XVF3510 base board using the supplied cable



Connect powered speaker to the 3.5mm audio socket on host laptop/PC, and place either side of the dev kit.

2 CONFIGURE SOUND SETTINGS

WINDOWS

1. Open Sound settings window.
2. On Playback tab, make sure that speakers are set as default device.
3. On Recording tab, select **Show Disabled Devices**; right-click on the Stereo Mix device; select **Enable**.
4. Double-click Stereo Mix device to open Properties window.
5. Check **Listen to this device** checkbox; select **USB Audio Device** from list (or **XVF3510 (UAC1.0) Adaptive**).
6. Right click on Stereo Mix; choose **Set as Default Device**.

MAC OSX

1. Open Audio MIDI setup.
2. Click + symbol to add a new device; select **Create Multi-Output Device**.
3. Select **Built-in Output** and **XVF3510** device.
4. Select new **Multi-Output Device** in device list.
5. Click ⚙ at bottom of window to open Options menu; select **Use This Device For Sound Output**.
6. Select **XVF3510** from Master Device drop-down list.
7. Select **Drift Correction** for Built-in Output.
8. Close Audio Devices window.

LINUX

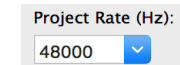
1. Install paprefs using package manager.
2. Open paprefs and click Simultaneous Output tab.
3. Select **Add virtual output device for simultaneous output** on all local sound cards option.
4. Close paprefs.
5. Open Terminal; restart pulseaudio server:
`pulseaudio -k`
6. Check for the sink named combined.
`pactl list sinks`
7. Set combined output as default output.
`echo "set-default-sink combined" | pacmd`

3 RECORD CAPTURED VOICE

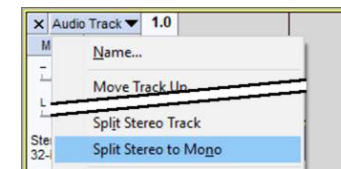
1. Open a music player on host PC and play a stereo file.
2. Check music is playing through powered speakers.
3. Adjust volume using music player or speakers.
4. Open Audacity and configure to communicate with kit.
Input Device: XVF3510 (UAC1.0)
5. Set recording channels to 2 (Stereo) in Device Toolbar.



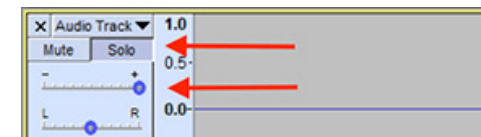
6. Set Project Rate to 48000Hz in Selection Toolbar.



7. Click Record (press r) to start capturing audio streamed from XVF3510 device.
8. Talk over music; move around room while talking.
9. Stop music player.
10. Click Stop (press space) to stop recording.
Audacity records single audio channel streamed from XVF3510 kit including extracted voice signal.
11. Click dropdown menu next to Audio Track and select **Split Stereo To Mono**.



12. Click **Solo** on left channel of split processed audio. Increase **Gain** slider if necessary.



13. Click Play (press space) to playback processed audio.
Only your voice is audible. Playback music is removed by Acoustic Echo Cancellation; voice is isolated by Interference Canceller; background noise is removed by Noise Suppression algorithms.