

# mod\_speex

## About

Speex provides fairly good audio qualities at reasonable CPU and bandwidth requirements.



### Obsolete

The [speex](#) codec has been obsoleted by [opus-codec RFC 6716](#).

## Codec negotiation

mod\_speex offers some support for [RFC 5574](#) fmpc codec negotiation. If the fmpc for Speex is defined in an offer or response, FreeSWITCH will configure the codec to use the preferred bit rate, vad, quality, etc. If the fmpc line is not present, FreeSWITCH will configure the codec using the default settings.

FreeSWITCH does not currently offer fmpc when originating calls except in the case where an A-leg has already offered an fmpc and the call is being bridged.

## Configuration

Speex offers many configuration options to control the default quality, complexity, VAD, etc. The `conf/autoload_configs/speex.conf.xml` file defines these options. See the [Speex manual](#) for a description of what these options control.

## Example default configuration

```
<!-- Speex configuration. See the Speex Codec Manual for a detailed description
of these options. www.speex.org/docs/manual/speex-manual.pdf -->
<configuration name="speex.conf" description="Speex codec configuration">
  <!-- default settings -->
  <settings name="default">
    <!-- Integer between 0-10 Higher quality == higher CPU utilization -->
    <param name="quality" value="5"/>
    <!-- Integer between 1-10 Higher compression complexity == higher CPU utilization -->
    <param name="complexity" value="5"/>
    <!-- enable perception enhancement -->
    <param name="enhancement" value="true"/>
    <!-- enable voice activity detection -->
    <param name="vad" value="false"/>
    <!-- enable variable bit rate -->
    <param name="vbr" value="false"/>
    <!-- Float between 0-10 Higher quality == higher CPU utilization -->
    <param name="vbr-quality" value="4.0"/>
    <!-- Average bit rate. Integer in bps -->
    <param name="abr" value="0"/>
    <!-- enable discontinuous transmission -->
    <param name="dtx" value="false"/>
    <!-- enable preprocessor -->
    <param name="preproc" value="false"/>
    <!-- enable preprocessor vad -->
    <param name="pp-vad" value="false"/>
    <!-- enable preprocessor automatic gain control -->
    <param name="pp-agc" value="false"/>
    <!-- AGC level -->
    <param name="pp-agc-level" value="8000.0"/>
    <!-- enable preprocessor denoiser -->
    <param name="pp-denoise" value="false"/>
    <!-- enable preprocessor reverberation removal -->
    <param name="pp-dereverb" value="false"/>
  </settings>
</configuration>
```

## See Also

- [Codecs](#)
- [Speex.org](#)