

# GRITTEC'S PITCH SHIFTING

## Speech and audio signals

### Overview

GritTec's Pitch Shifting technology is used for pitch scale modification (changing the harmonics structure) of speech and audio signals. Principle of functioning GritTec's Pitch Shifting technology is based on time-domain modification using SOLA technology, such as Waveform Synchronized Overlap-Add (WSOLA). Pitch shifting technology can be effectively used for changing initial music or voice into another music or voice (audio-speech effect).

### Applications

- With IVR systems such as text to speech (TTS) systems;
- With solutions of VoIP telephony such as audio chats;
- For voice messaging services (voice mail).

### Features

- High sound quality;
- Real time processing;
- Signal delay: 0 ms.;
- Guarantees fixed speaker position for stereo signals;
- Pitch-stretch factor: 50%, ..., 200% (normal speed: 100%);
- Dynamic mode changing of pitch stretch factor;
- Length of input packet data: inside specific length OR you can set packet length in samples yourself, but not less than 20 ms and not more than 40 ms.;
- Dynamic mode changing of length of packet data;
- Easy integration with target applications.

### Signal requirement

- Signal format: 16-bits linear;
- 8 kHz, ..., 48 kHz sampling rate;
- Channels: 2 (mono or stereo).

### Availability

- PC demo for MS Windows x86/x64, Linux x86/x64 platforms;
- SDK for MS Windows x86/x64, Linux x85/x64 (C++ fixed point code) is available on request;
- Customization resources if required;
- Portability to any DSP or ARM platforms.

GritTec Laboratory (GritTec Ltd.) specializes on research and development of algorithms and technologies in the field of speech and audio processing. GritTec's research is focused on speech enhancement, speech concealment, voice biometric, speech recognition, speech synthesis and other speech and audio technologies.

### Contacts

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