



VOICE CONVERTER

User Guide



 Voice-F0

<http://www.voiceconverter.net>

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Overview

Voice Converter is an easy and powerful voice editor, capable of a wide range of vocal processing. The combination of its high quality processes are almost unlimited.

Pitch Editor, Formant Shift, Vibrato, Raspiness, Breathiness and *Time Stretching* settings can be saved in User Preset Files, and the Fabric Presets have been carefully created for a quick character design. Also, the Pitch Editor allows you to do Pitch Correction and Freehand Contour Drawing.

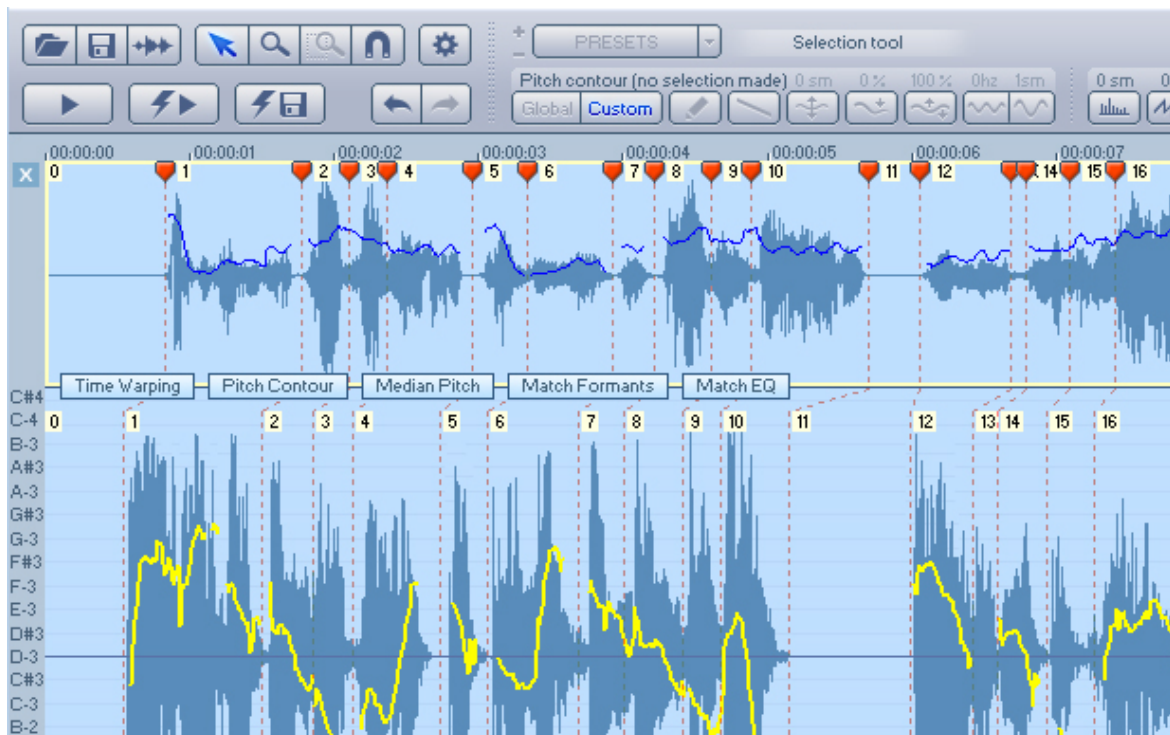
- **Interface Characteristics**

- *Wide waveform display*
- *Visual and acoustic references of musical notes*
- *Changes in pitch contour are instantly reflected*
- *Intuitive icon buttons, and accurate time / frequency display*

Voice Matching

Voice Matching converts a source speaker's voice into a target speaker's voice, based on its sound quality characteristics: *Timing, Pitch, Timbre* and *Frequency Spectrum*. It has application in voice editing like dubbing in different languages, retakes, lip-sync and singing voice replication.

First, open the voice to be converted with the **Open Sound** button. Then, click the **Voice Matching** button to load the reference vocal track. The reference track is shown above the main track. You can toggle the active track using the Ctrl+Tab keys or by clicking on the desired track.



Voice Matching Tools



The **Voice Matching Tools** are shown between the two tracks.

- **Time Warping**
 - The program auto detects time regions based on the reference sound pitch. They can be aligned accurately so that timing and phrasing will be in sync
 - Click on the playhead handle to add a time marker
 - Click on the marker handle to display a contextual menu with two options: "*Delete*" and "*Delete All*"
 - Each time region is labeled with a number. Click on a label to select and play that region
- **Pitch Contour / Median Pitch**
 - The whole pitch contour can be transplanted (e.g. for singing) or only the average pitch for preserving the source intonation
 - The pitch curve can be refined manually with the Pencil and Line tools
- **Match Formants**
 - The program estimates the formant shift needed to match the target timbre. It can be adjusted manually with the Formant Shift Tool
- **Match EQ**
 - The frequency spectrum of the original sound will be applied to the converted sound

About Pitch and Vocal Tract

Voice **Pitch** and **Vocal Tract** Length are related to the size, sex and age of the speaker. In Voice Converter, the **Vocal Tract is handled via the Formant Shift** tool.

Pitch is determined by the rate of opening and closing of the vocal folds. Adult men have low pitches, children have high pitches, and adult women lie in the middle.

The **Vocal Tract** is the area between the glottis and the lips, and its length is correlated to the speaker body size. Large adult men have a longer vocal tract that produces a fuller voice, children have a short vocal tract and a lighter voice, and women have intermediate lengths.

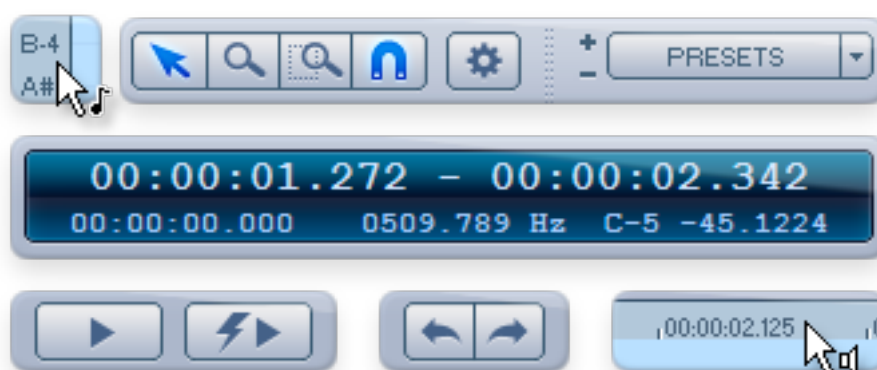


File Tools



- **Open / Save Project**
 - Any session can be saved and retrieved in Project Files (.vcpj)
- **Open Sound**
 - Accepted formats are monophonic WAV and MP3. Stereo sounds are accepted, but only left channel will be used.
- **Save Converted Sound**
 - Converted sounds are saved in WAV format at the same sample rate of the original sound.

Edit Tools

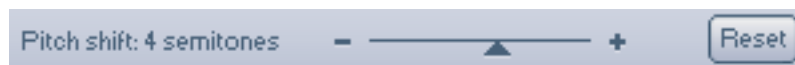


- **Play Note**
 - Click and hold in any note symbol of the left bar and that note will play as a reference.
- **Selection Tool**
 - For selecting the range of audio you want to edit or listen to.
- **Zoom / Zoom Selection**
 - For dragging and zooming in a rectangular area, or for zooming in a selected range.
- **Note Snapping**
 - When this button is On, every change in the pitch contour is automatically adjusted to the nearest semitone.
- **Pitch Analysis**
 - The first time a sound is loaded, its Pitch Contour is automatically analyzed and stored in a .ptch file. The analyzed pitch contour is represented in yellow in the graphic display. This automatic analysis can be readjusted with the Pitch Analysis option.



- The Pitch Analysis dialog displays the frequency range in Hertz used for the analysis, represented in the Waveform Display by two dotted lines. You can reanalyze the Pitch Contour using the Auto or Custom option. If Custom is selected, the Frequency range can be set by dragging the dotted lines.

- **Fabric and User Presets**
 - Global Effects Settings can be loaded, saved and deleted in User Preset Files (.vcps)
- **Time / Frequency Display**
 - Time Display in Minutes and Seconds
 - Frequency Display in Hertz and Musical Notes.
- **Play / Stop**
 - Plays and Stops the current selection range of the original sound.
- **Prelisten Conversion**
 - Converts and plays the current selection range.
- **Multiple Undo / Redo**
 - History of the Custom Pitch Contour changes.
- **Play While Dragging**
 - Dragging over the time ruler the original sound plays at the current cursor position.
- **Value Slider**
 - The slider sets the value for the selected process, and the label shows the process name and its current value in Semitones, Percent or Hertz.



- **Horizontal Scrollbar**
 - The Horizontal Scrollbar and the Zoom In/Out buttons control the visible time range. The button between the Zoom buttons fits the entire waveform in the display.



- **Vertical Scrollbar**
 - The Vertical Scrollbar and the Zoom In/Out buttons control the visible frequency range. The button between the Zoom buttons fits the pitch contour in the display.



Vocal Processes



- **Global / Custom Pitch Contour**



- **Global** processes affect the entire waveform, and changes are instantly reflected in the Waveform Display. *Pencil* and *Line* tools are not available when “Global” is On, and the effects not related with Pitch (Formant Shift, Raspiness, Breathiness and Time Stretching) are always Global. **Global** settings can be saved in User Preset Files (.vcps)
 - **Custom** Pitch Contour affects the current selection, and changes are kept in an Undo/Redo history. **Custom** changes cannot be saved in User Preset Files, but can be stored in Project Files (.vcpj)
- **Pitch Manipulation Tools**
 - **Draw.** Pencil / Line. For drawing directly over the waveform any custom contour
 - **Pitch Shift.** Range: +/- 24 semitones
 - **Smoothing.** Range: 0 to 100 %
 - **Range Scaling.** Range: +/- 200 %
 - **Vibrato.** Rate / Depth
 - Rate Range: 0 to 10 Hertz
 - Depth Range: 0 to 12 semitones
 - **Other Tools**
 - **Formant Shift.** Range: +/- 12 semitones
 - **Raspiness.** Range: 0 to 100 %
 - **Breathiness.** Range: 0 to 100 %
 - **Time Stretching.** Range: 10 to 300 %

Requirements

- Windows XP or later
- 16-bit sound card or higher
- 24 or 32-bit color depth
- WAV and MP3. Non-polyphonic recordings

FAQ

- **The conversion quality is not good enough**
 - The original sound must have good recording quality: dry, normalized, non-polyphonic and without background noise, music, reverb, etc.
- **Why the processes are not in real-time?**
 - The conversion algorithm is optimized for the best quality at the fastest time possible. Other programs can convert the voice in real-time at the expense of reducing the resolution and final output quality.
- **Are there any limitations on the length of the sounds?**
 - There is no duration limit, but the calculation of pitch requires some time. If the file is very long we recommend splitting it into several parts. The program allows you to open different files without changing the current settings. This speeds up the conversion process.
- **Can I convert a song?**
 - It is not possible to convert a polyphonic sound. The program is designed to convert monophonic sounds, such as voice or solo instruments. A song contains several instruments, each one with its own pitch.