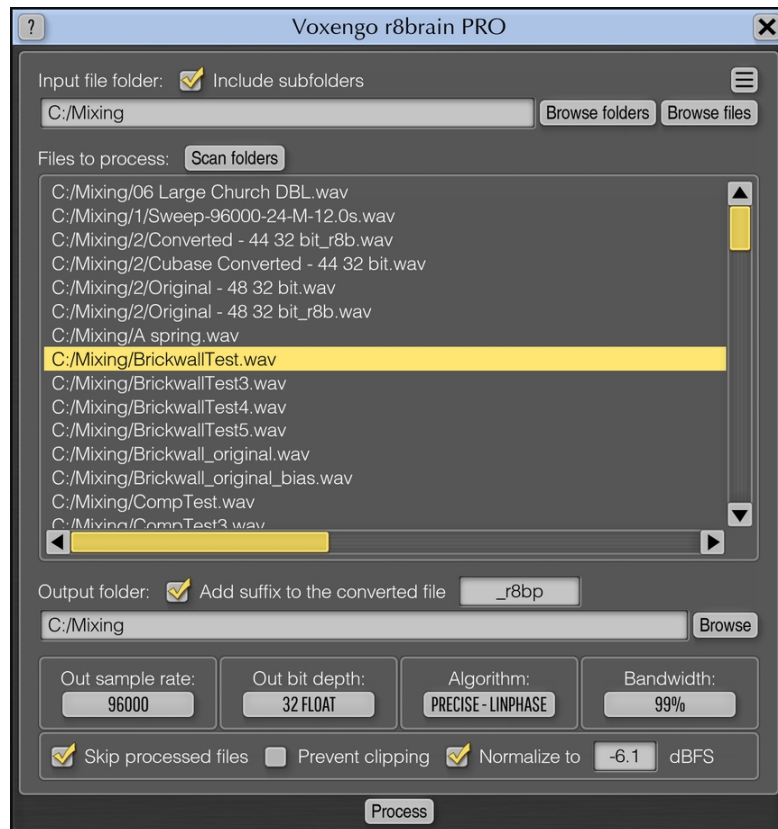

Voxengo r8brain PRO User Guide



Version 2.8

<https://www.voxengo.com/product/r8brainpro/>

Contents

Introduction 3

 Features 3

 Compatibility 4

User Interface Elements 5

 Main Window 5

Credits 7

Introduction

r8brain PRO is a professional sample rate converter tool software designed to deliver an unprecedented sample rate conversion (SRC) quality. Unlike other existing SRC algorithms available on the market, r8brain PRO implements sample rate conversion processing in its full potential: interpolation and decimation steps without exploiting any kind of simplifications; the signal is resampled in a multi-step manner using a series of least common multiple sample rates which makes conversion perfect – both in signal-to-noise and timing precision aspects. Such whole number-factored SRC can be considered a golden standard in sample rate conversion as it is not subject to jitter nor timing errors.

Like many existing SRC algorithms, r8brain PRO offers you a linear-phase conversion mode. But more importantly, you also have an option of using the minimum-phase conversion mode, which finally brings SRC with true analog qualities to affordable digital audio workstations: in this mode, r8brain PRO works like an ideal digital-to-analog converter followed by an analog-to-digital converter to resample the audio. This eliminates pre-ringing associated with linear-phase designs, while introducing a minimal amount of phase coloration.

r8brain PRO can read mono, stereo and multi-channel files in WAV, RF64, Wave64 and AIFF file formats, creating 16-, 24- and 32-bit mono, stereo and multi-channel WAV files in fixed- and floating-point formats. EBU BWF (broadcasting) extensions, extensible wave format, markers, sample loops and textual data residing inside the file are also supported. For the sake of convenience, r8brain PRO allows you to perform multi-threaded batch conversions that utilize the full potential of your computer.

r8brain PRO's bit-depth conversion uses an industry-standard “flat” TPDF dithering. We have decided not to implement noise-shaping dithering because audio production software available on the market usually offers the user a noise-shaping dithering of some kind already (you can also use our Elephant plug-in for this feature). We also based our decision on the fact that the sample rate conversion process often adjusts peak structure of the original program material, thus, in many cases, making a subsequent peak-limiting a necessity. To prevent output audio from clipping we have implemented a level normalization feature.

Features

- Mono, stereo and multi-channel support
- Linear-phase and minimum-phase modes
- Selectable output signal bandwidth
- Automatic peak normalization
- Full WAV file support
- RF64 file support
- Broadcast wave extension support
- Markers and loops support
- Wave64, AIFF support (on input only)
- Multi-threaded batch conversion
- 64-bit floating point processing
- Standard sample rates support

Compatibility

This application is compatible with 64-bit Windows (Vista, 7, 8, 10 and later versions, if not announced otherwise) computers (2.5 GHz dual-core or faster processor with at least 4 GB of system RAM required).

User Interface Elements

Note: All Voxengo applications and plug-ins feature a highly consistent user interface. Most interface elements (buttons, labels) located on the user interface are the same in all Voxengo applications and plug-ins. For an in-depth description of these and other standard features and user interface elements please refer to the “Voxengo Primary User Guide”.

Main Window

The “Input file folder” is the name of the folder containing the original (input) WAV, Wave64 or AIFF files. To select a folder, use the “Browse folder” button, or use the “Browse files” to select one or more specific files from a folder. The “Scan folders” button can be used to find all supported files in the specified folder if you entered manually. The “Include subfolders” option performs the file scan in all subfolders of the specified folder.

The “Files to process” list box lists all the files which should be processed when you press the “Process” button. The right-mouse-click can be used to remove entries from the list. The left-mouse-double-click can be used to open the currently selected file using the default associated application.

The “Output folder” specifies the folder where resulting files should be written. This field is filled automatically after each new input file folder selection. Note that r8brain PRO preserves the original folder structure during conversion, and the resulting files will reside in subfolders with the original names.

The “Add suffix to the converted file” switch allows you to append any specified suffix to the output filenames. This allows you to easily identify resampled copies of your files. Please note that disabling this option may overwrite the original files if the output folder is equal to the input folder. Disable this option with care!

The “Out sample rate” selects which sampling rate resulting files should have. Note that the resampling process by its nature cannot increase “quality” of the file being processed. Moreover, when changing the sample rate down it reduces its quality. For example, increasing the sample rate of a file from 44100 to 96000 will not make the file to have a “better” quality. However, depending on the sound card you are using and its hardware implementation, sound files at 96000 may sound better. But this does not mean resampling is increasing a quality of the sound file.

The “Out bit depth” selects which bit-depth resulting files should have. r8brain PRO performs the industry standard TPDF dithering when non-float bit depth was chosen.

The “Algorithm” selects algorithm type to use during sample rate conversion. The “Precise – LinPhase” performs linear-phase resampling using precise algorithm. The “Precise – MinPhase” performs minimum-phase resampling using precise algorithm. The “Fast – LinPhase” performs linear-phase resampling using the fast algorithm also found in the free “r8brain” converter. Note that all algorithms produce excellent results, but the “Precise” algorithms produce an ultimate-quality conversion.

The “Bandwidth” selects the “quality” of resampling which means the amount of spectral information to preserve during sample rate conversion process. 99% is the highest quality setting.

The “Skip processed files” switch enables skipping (ignoring) of previously processed/resampled files even if they are present in the list. Note that when this option is enabled, r8brain PRO writes a standard “ISFT” (“Software”) comment field to the output file to distinguish between processed and original files. This “ignoring” feature will not be engaged for files previously processed without this switch enabled. So, if you plan to always rely on this feature, leave it always enabled.

The “Prevent clipping” switch enables automatic normalization if the signal clipping was detected during conversion.

The “Normalize to” dBFS option can be used to normalize the resulting file to the specified dB (full scale) peak value. Peak value should be specified in decibels, with decimal part separated with the point (e.g. -0.3).

The “Process” button starts batch-processing of the files listed in the file list. Since batch processing is multi-threaded, it may utilize all available processing cores of the computer if there are many files in the list. Any file that could not be processed will be listed again after the batch finishes. This allows you to check/edit or remove any such file from the list, and continue the batch processing later.

The “Settings” button above the “Browse files” button opens the settings window where you can fine-tune visual aspects of application’s interface. Authorization/registration details can be also entered in this window.

Credits

DSP sample rate conversion algorithm, user interface layout by Aleksey Vaneev.

Graphics user interface code by Vladimir Stolytko. Graphics elements by Vladimir Stolytko.

This application is implemented in multi-platform C++ code form and uses “zlib” compression library (written by Jean-loup Gailly and Mark Adler), “LZ4” compression library by Yann Collet, “base64” code by Jouni Malinen, Intel IPP and run-time library by Intel Corporation (used under the corresponding licenses granted by these parties).

Voxengo r8brain PRO Copyright © 2004-2020 Aleksey Vaneev.