

## CravenFilters

### Contents

CravenFilters is supplied as a zip file, cravenfilters.zip. When unzipped it should contain:

- CravenFilters.exe
- FilterA.dat
- FilterB.dat
- FilterC.dat
- FilterD.dat
- FilterE.dat
- FilterF.dat
- CT\_Pro.dll

and this information file.

### Description

CravenFilters applies the six Wilkinson filters described in Appendix C of Peter Craven's AES paper *Antialias Filters and System Transient Response at High Sample Rates* (*Journal of the Audio Engineering Society*, vol 52, no 3, p216, March 2004 – downloadable from [www.aes.org](http://www.aes.org)) to 24-bit packed integer format Wave files of 96 or 192kHz sampling rate, mono or stereo. The program offers the user a selection of appropriate filters in accordance with the sampling rate of the specified source file.

### System requirements

CravenFilters should run under any Windows 32-bit operating system, from Windows 95 onwards. It has been tested on Windows ME, Windows NT4 and Windows XP Pro.

To run, CravenFilters requires that the six supplied .dat files and CT\_Pro.dll be installed in the same directory as the executable, otherwise an error will be reported. CT\_Pro.dll contains the runtime files of Perfect Sync Inc's Console Tools Pro (<http://perfectsync.com>) which provides enhanced control over the console window's appearance and function. The CravenFilters window is sized to suit a wide range of display resolutions.

CravenFilters is inherently a fast-running program, although it has *not* been optimised for speed of operation. Its speed in practice is determined principally by disc reading/writing and memory operations, particularly when processing large Wave files. If there is intensive hard disk activity as CravenFilters reads the input file, this indicates that your computer is having to use virtual (hard disk) memory. Operation will be significantly faster if all the memory operations can be achieved within RAM. To facilitate this you may need to close other applications. If virtual memory is required even when CravenFilters alone is running, a RAM upgrade will be needed for your computer to run it faster. Or you can chose to process shorter Wave files.

### Operation

CravenFilters first asks you to identify the Wave file to be processed. If the Wave file is not in the same directory as the executable then you must specify a complete path, *eg* c:\audio\guitar.wav. Note that the .wav extension must be included. If the specified file is not found this will be reported in an error message. Error messages will also be generated if the specified file is not a Wave file (*ie* not identified as such in its header), if it is not in PCM format, if it is not in 24-bit packed integer format or if it has a sampling rate other than 96 or 192kHz.

If these tests are passed, CravenFilters reports the number of channels, sampling rate and length of the specified Wave file before asking you to specify the filter to apply and a name for the output file. The processing then proceeds without further user intervention, with the program reporting progress as it reads the input and filter files, convolves the filter with the input data and writes the output file.

To prevent the introduction of nonlinear distortion, the processed output data has TPDF (triangular probability density function) digital dither added to it prior to re-quantisation, at the optimum amplitude of 2LSB pk-pk. This means that the output file will have a slightly higher noise level than the input file, although in practice this will normally pass unnoticed.

### **Licence**

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Keith Howard  
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