About the *SoundShaper* GUI

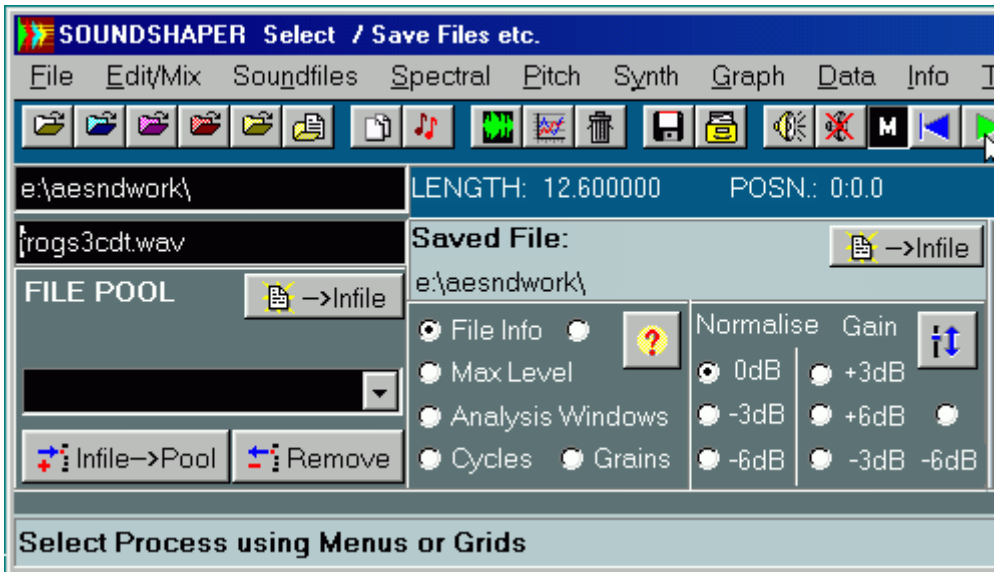
A practical, menu-driven GUI by Robert Fraser

The *Soundshaper* GUI, like *Sound Loom*, is a 'front-end' for the CDP software functions. This document explains how it operates, and in doing so provides a concise insight into how the CDP System approaches various tasks.

The Main Window

I would single out as its key feature, *SoundShaper's* practical and concise layout. The fundamental sequence of operations in a sound design package such as CDP is HEAR - ALTER - HEAR AGAIN. *SoundShaper* focuses on this basic tripartite sequence by making its main window a PLAY mechanism, with the full functionality of the CDP system available above it in the form of drop down menus.

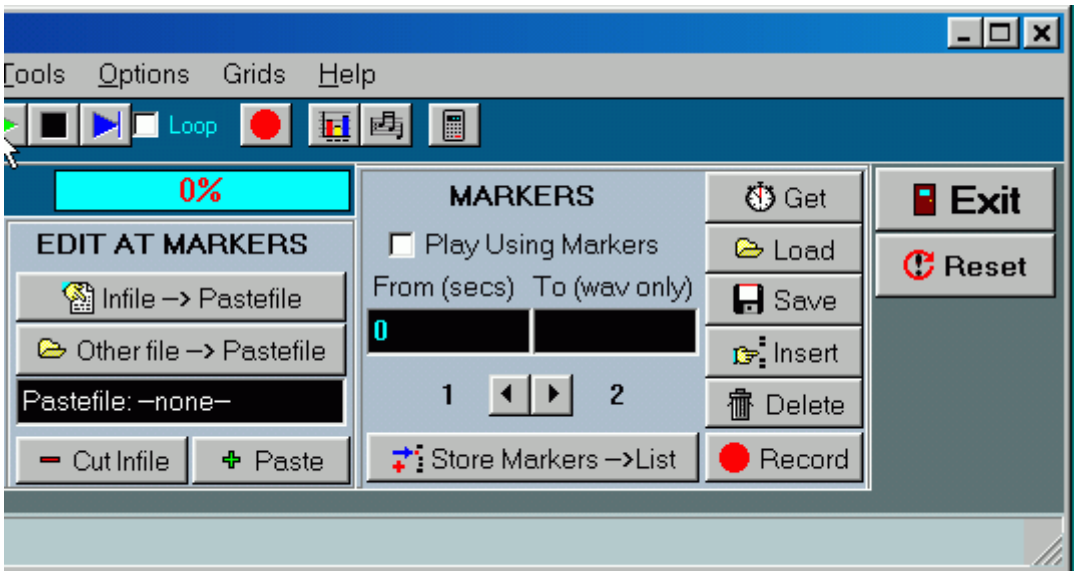
(Note Toolbar and cursor on soundfile Play button)



Soundshaper Main Window (Left half)

When a process is completed, its output soundfile appears in this main window, ready to be played. Thus you can HEAR the source sound, go to one of the CDP functions to ALTER it, and then HEAR the result, all from the main window of the GUI. Furthermore, this window is very compact, enabling the composer to place another application, such as a soundfile editor, on screen at the same time. The key words are **compact, easy access,** and **focus on audition**.

Note functions for setting edit points.

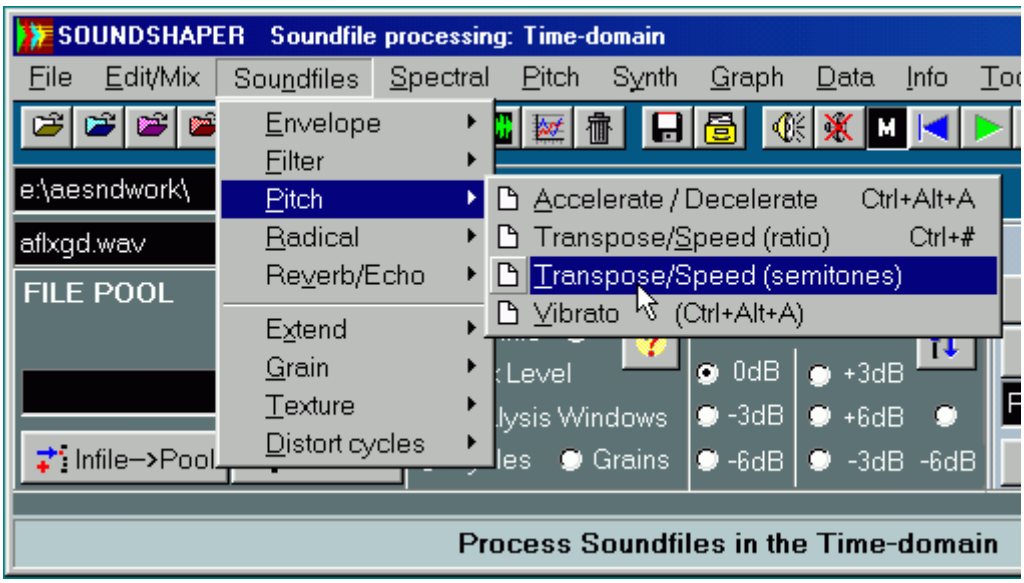


Soundshaper Main Window (Right half)

Soundfiles generated within the Interface are automatically named. This makes it possible to work very quickly through a sequence of operations. These names can be changed at any point, such as to make them more descriptive or SAVE them with a particular name.

Easy Access to Functions

Drop-down menu for the CDP Pitch functions



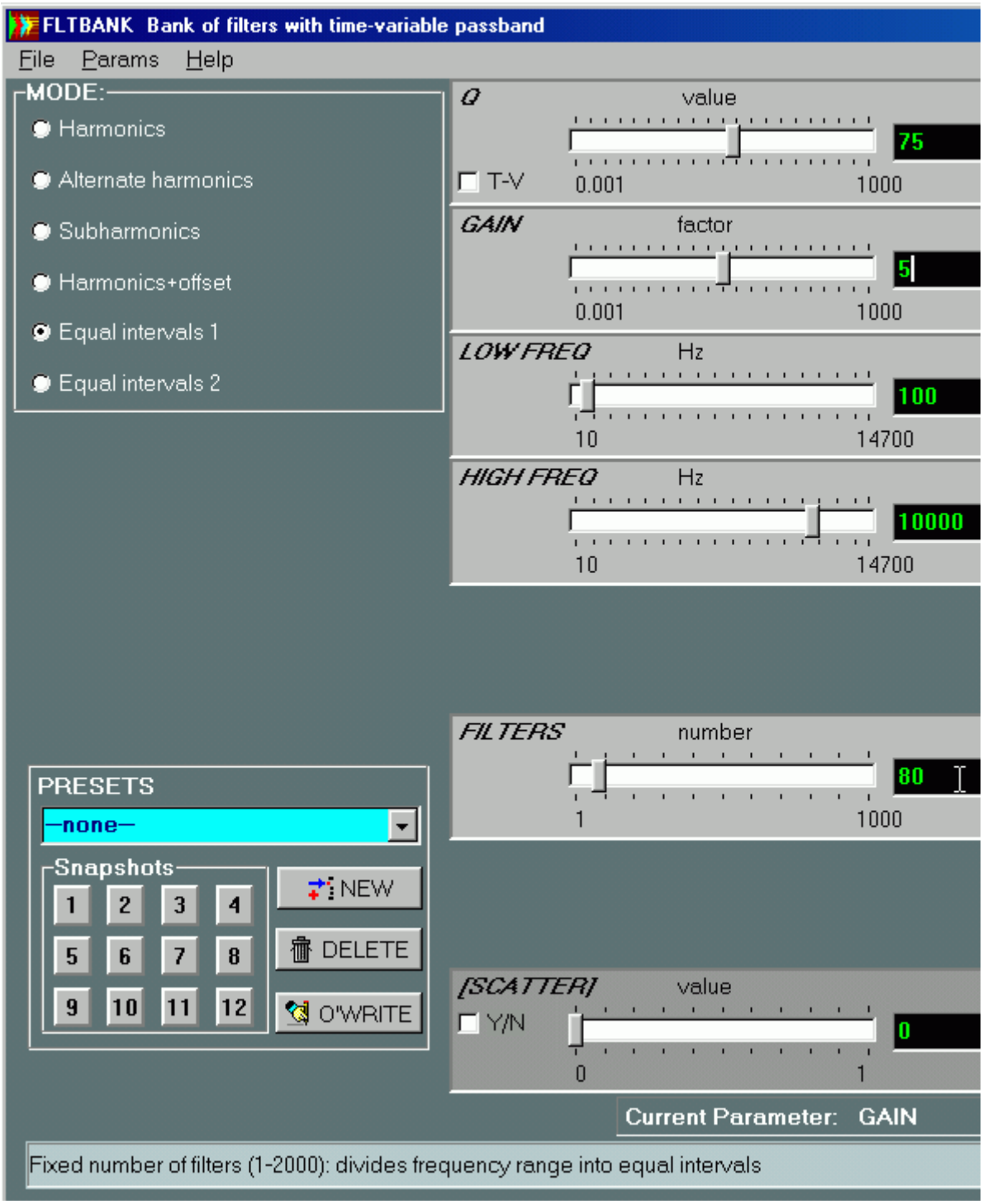
Soundfile pitch transposition is selected

- The drop down menus of functions are clearly laid out, so that it is easy to find any processing or utility function in the System.
- The naming of the functions is close enough to that of the underlying command line programs to enable the composer to identify the latter. This can be useful when looking up something in the fuller HTML documentation, or when editing a batch file generated by the Interface.

- There is also a grid of function names for ultra-fast access, when sufficiently familiar with the system.
- The is space in the menu structure for you to add your own favourite additional applications, such as the standalone CDP graphic program, *GrainMill*.

Dialog Boxes Group Related Functions

When there are several closely-related CDP functions, these tend to be grouped in one dialog box, with radio-button switches. When a particular function is selected, the dialog is reconfigured accordingly. This aids in the intuitive comprehension of the System's functionality, and makes it easy to create a number of alterations with a 'family resemblance'. The following screen shows a dialog box configured for FILTER BANK, Mode 5 (**Equal Intervals by number of filters**).



Filter in equal intervals by number of filters

Filter in equal intervals by number of filters

When the user selects Mode 6: **Equal intervals 2** (by size of interval **in semitones**), the same dialog box is reconfigured, replacing the number of filters parameter with the semitones parameter.

Parameter Help Messages

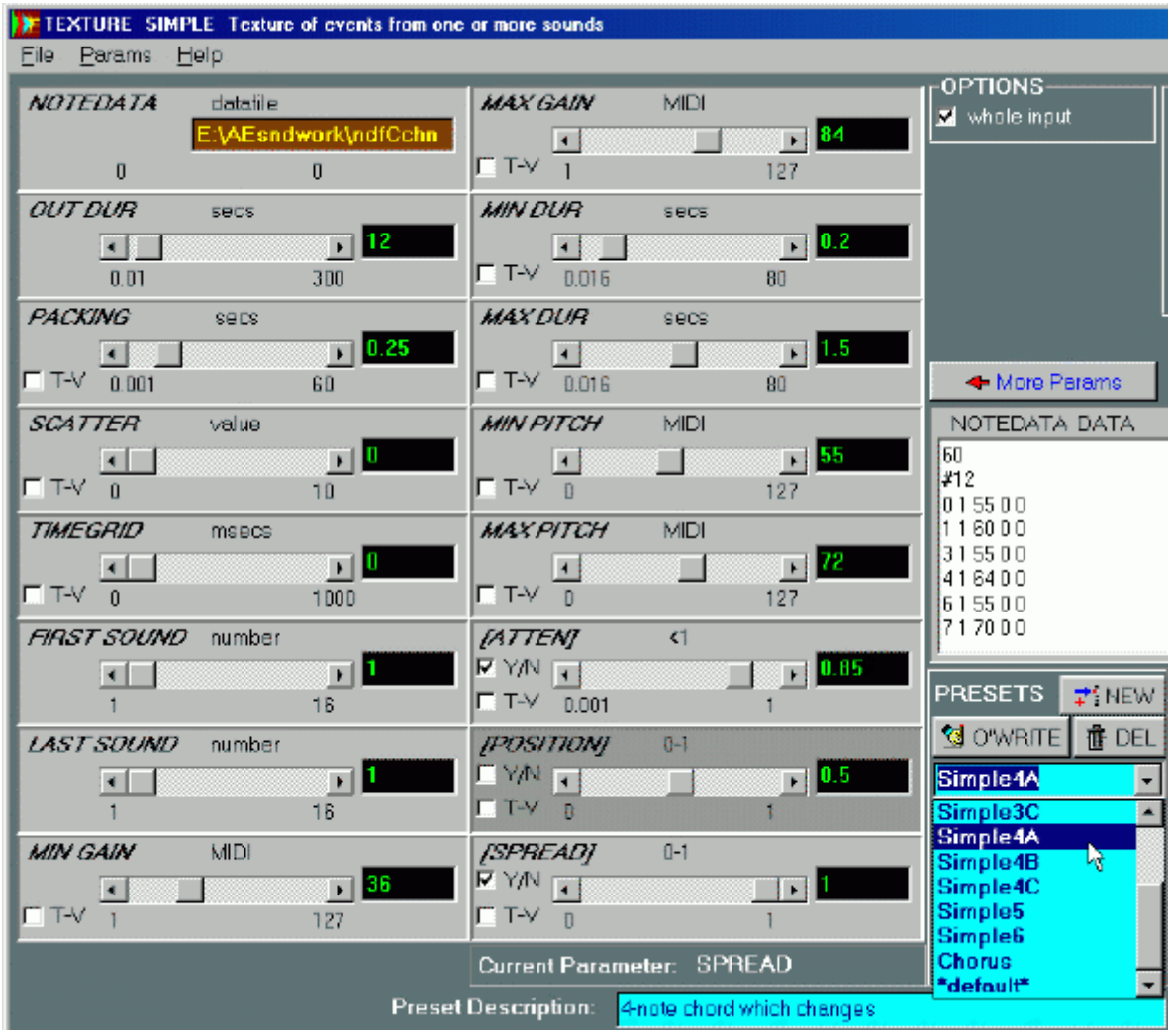
The Status Bar is used to explain parameters and their value range limits. This makes it possible to use the System with minimal need to refer to the more comprehensive (HTML) documentation.

In the above dialog box we see a help message at the bottom of the screen. The message "Fixed number of filters (1-2000) divides the frequency range into equal intervals" tells us that we can use up to 2000 filters to create equal divisions of the frequency range.

New Facility for Presets

You can now save your parameter configurations as **Presets** and build up a **Collection** of up to 100 presets per CDP function, with no limit to the number of 'collections' of Presets. Presets save all the parameter data, including the names of breakpoint files – but not the soundfile input(s) and output.

TEXTURE SIMPLE dialogue box showing the Presets list opened



Texture Simple Dialogue Box

When saved temporarily while working, they are called 'snapshots'. A **Snapshot Pad** looks like a numerical keypad with 9 snapshot storage locations numbered 1 to 9.

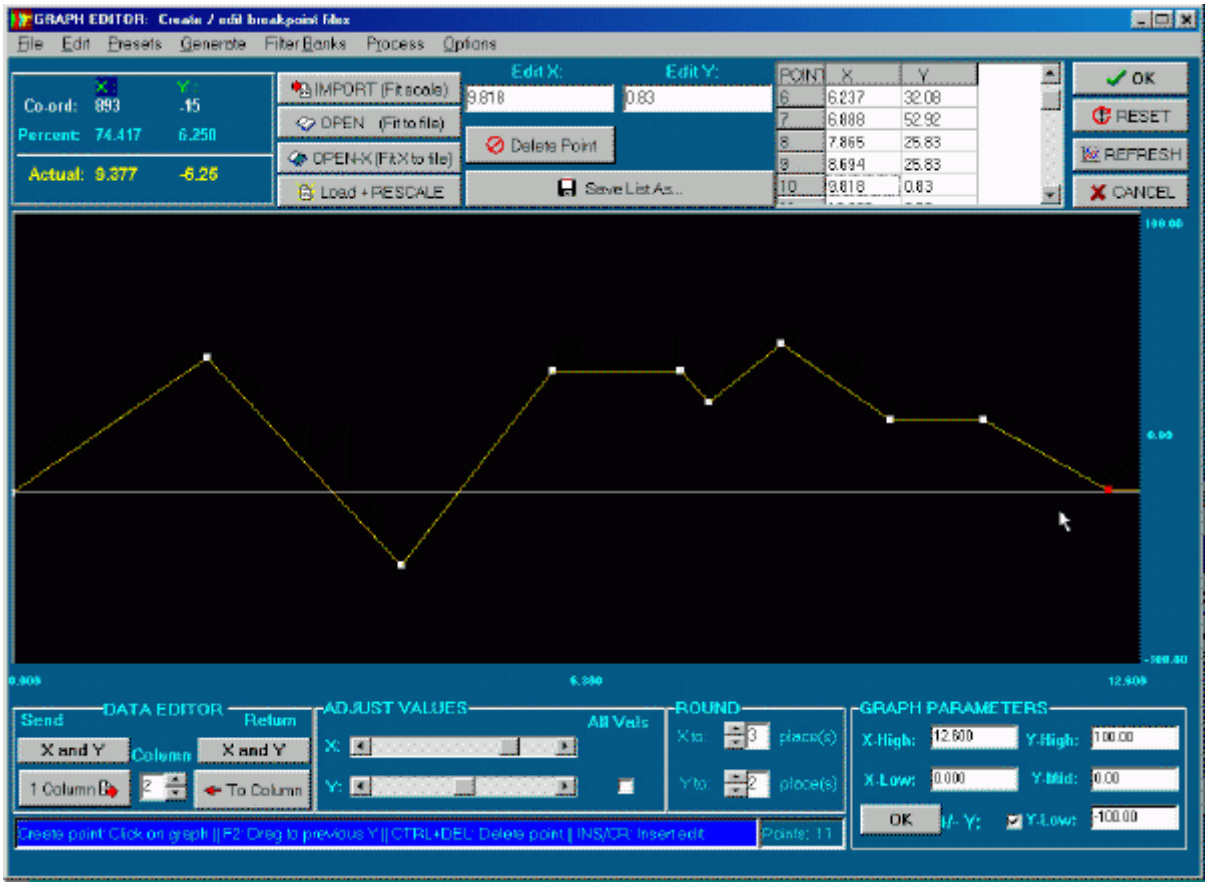
Clicking on a number stores the current parameter settings, and the numbered button turns green to show that it is occupied. Clicking on a green button retrieves the stored parameter configuration. Presets are Snapshots which are saved to and recalled from disk.

There are *Soundshaper* Presets for all the music examples in the TEXTURE HTML Reference Manual, supplied as standard with CDP Systems. Presets are especially useful with the Texture Set because there are so many parameters.

Richard Dobson's *Reverb* and *Multi-channel Toolkit* programs are implemented in *SoundShaper*, also with a Preset facility.

Graphic Breakpoint Editor

Soundshaper's graphic breakpoint editor



Breakpoint editor showing information displays and interactive controls

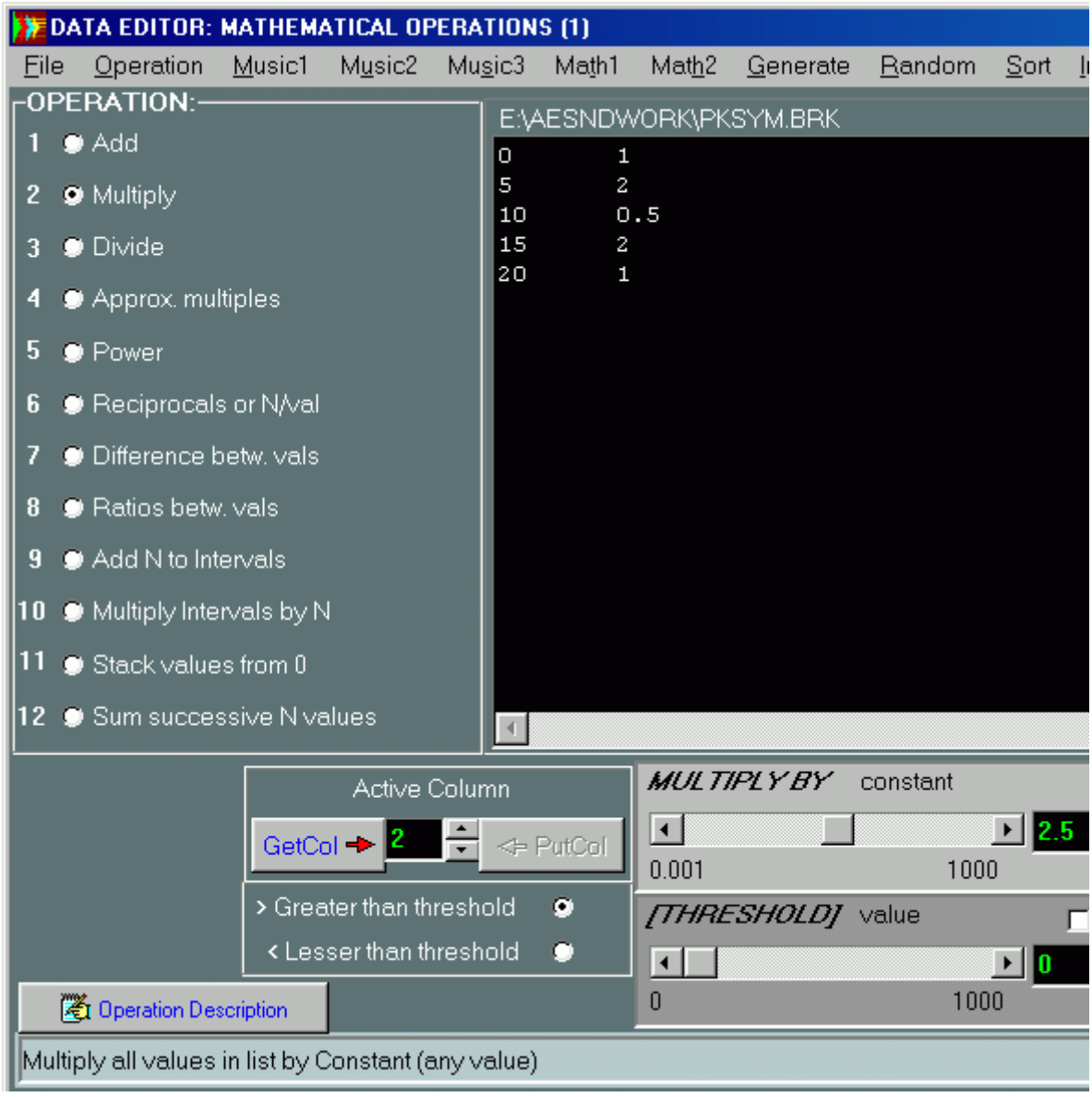
SoundShaper contains its own straightforward graph editor. Creating time-vary-

SoundShaper contains its own straightforward graph editor. Creating time-varying contours is an essential requirement for achieving 'plastic' musical results, and many parameters in the CDP System therefore support this feature. Easy access to this facility is available from the drop down menu of the main window. The graphic 'breakpoint' editor also displays the breakpoints (time + value) created in text (table) form displayed at the top right portion of the screen.

Data Editing / Mixing

Emerging from the COLUMNS program is the ability to edit columns of data. This corresponds to the **Table Editor** in *Sound Loom*.

Soundshaper Data Editor



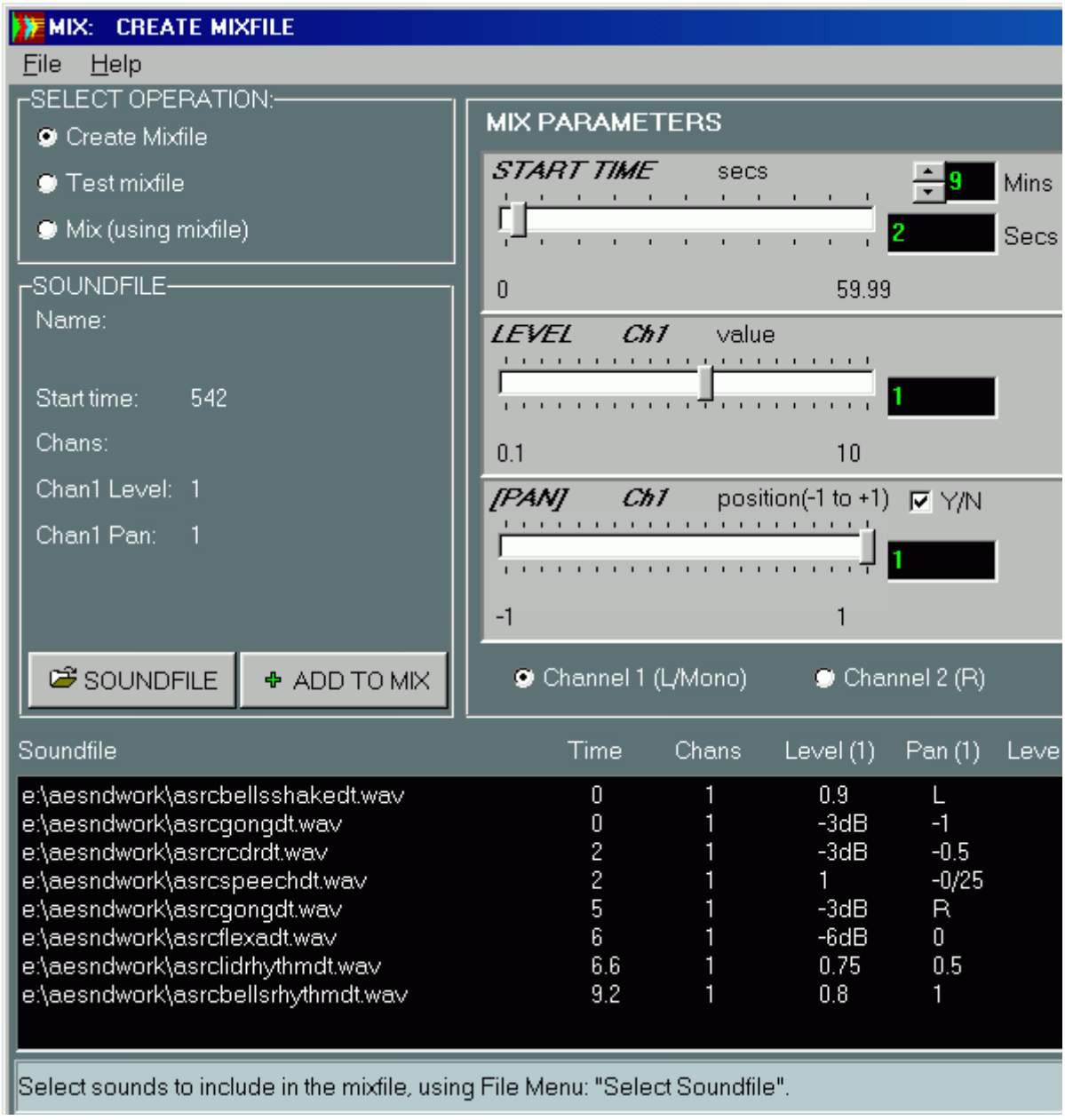
Note the drop-down menus for different function categories

Soundshaper's MIX facilities are easy to use. CDP mixing is not track-based as in audio sequencers. In a track-based mixer, it is easy to repeat sounds, but overlap is possible only by placing sounds on separate tracks. **CDP focuses on designing sonic entities and is all about overlap.** Therefore all sounds are listed vertically. Repetition is possible by repeating a sound at a different time,

with or without overlap – the same source sound can be used, so it is the same as having virtual copies.

The screen below shows the *Soundshaper* MIX page, where soundfiles are selected and added to the mix, start time, level and pan set (moving pan has to be done previously). This information is then saved as a text mixfile, which you can edit. You could also write a mixfile from scratch with a text editor if this suited your way of working.

Soundshaper MIX window:



The mix file shown is an editable text file

History Function

One does not always want to go through the entire graphic point and click process, especially as certain favourite sequences of operations are developed. A History Function is therefore useful in building up libraries of complex functions which can be run at a stroke. When activated, *SoundShaper* will record all the processes you run by writing a text file of the command lines created. This text file can then be edited and used in MSDOS as a batch file with different soundfile

file can then be edited and used in MSDOS as a batch file with different soundfile input(s). An experienced composer will gradually create his or her own set of operations central to their own composing style. Because the Interface runs with the standard CDP programs, moving between *SoundShaper* and MSDOS is completely transparent.

Last updated: 23 May 2006