



## SOUNDSHAPER: Vn. 6.3 BETA

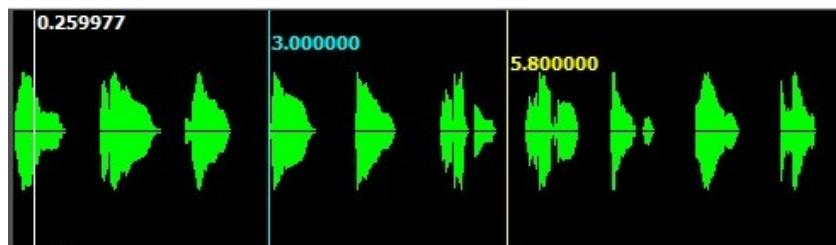
### NEW FEATURE: PROCESS SELECTION

It is conventional in sound editors to select a segment of a sound and process just that portion. Soundshaper previously had a means of doing this, but it was clumsy, taking up three output cells. Now the procedure has been built into Soundshaper's scripts to make a slicker and more "normal" mode of working.

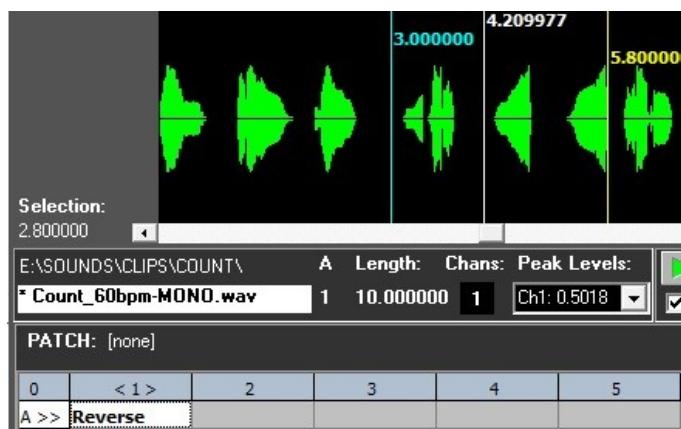
The PROCESS panel now has just two choices: **WHOLE FILE** or **SELECTION** (formerly "Process at Loop Points"). The third choice, "Process at Markers", has been dropped, but is still available indirectly (see below).



The selection is made by moving the Loop Points on the sound display - click or drag with the Left mouse button to move the start time (blue line) and the Right button to move the end time (yellow line). This can be done in real-time as the sound plays.



To process a selected segment, set the Loop start and end points, click **PROCESS SELECTION** and then select the process as normal. Only the selected portion will be processed. The output is the whole file with this portion changed. The same loop points are returned to the output cell, allowing for further processing of the same segment, if appropriate. (Where the output sound is shorter or longer than the original, these times may no longer be relevant, however, and can be adjusted as required for the next process.)



## PARAMETER GROUP

A fairly large category of CDP processes already have START and/or END times as parameters. These will be referred to as the **PARAMETER GROUP** in this document. This group is excluded from PROCESS SELECTION, and the process choice is made automatically: that is, WHOLE FILE is automatically selected if PROCESS SELECTION has been chosen.

Most of the PARAMETER GROUP return the whole file with the portion changed, as in PROCESS SELECTION, but some return just the processed segment.

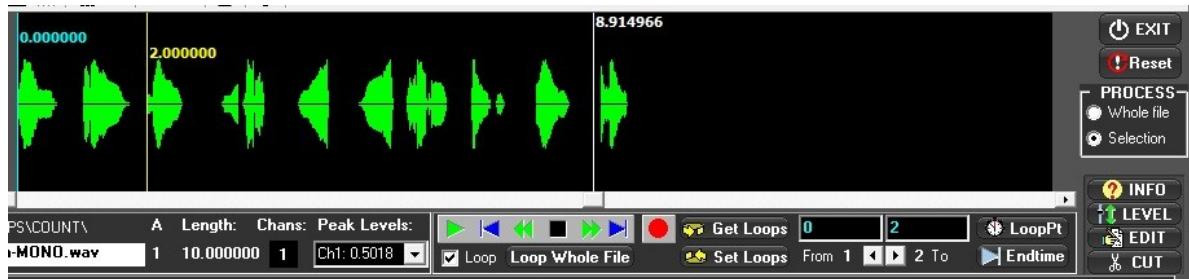
CUT and similar editing and Level processes are a special case, where choosing PROCESS SELECTION causes them to run with fixed parameters, while choosing WHOLE FILE (and re-editing them) brings up a Parameter Page.

## MARKERS

As before, the selected times can be sent to the Markers list by the GET LOOPS button and, conversely, SET LOOPS sets the loop points to the left (**From**) and right (**To**) marker times, respectively. There is also a new **Loop Whole File** button, which re-sets the loop points to the start and end of the file.

To "Process at Markers" (the former 3rd choice), enter the required times into the Markers boxes, click SET LOOPS to make those the selected times and proceed with PROCESS SELECTION.

For example, to extract the first two seconds of a sound, enter **From: 0 To: 2**, click SET LOOPS and PROCESS SELECTION and click the CUT button:



## TIMESFILE

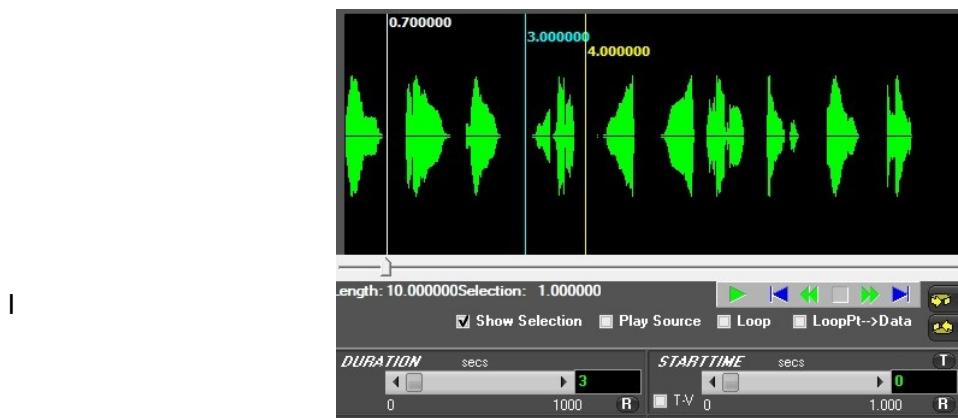
Markers can also be used to collect times for processes requiring a "timesfile" (such as Cutmany, Silences etc.) This has not been changed. Timesfile processes are included in the Parameter Group.

## PARAMETER PAGE: Process Selection

Provided that Option 3 "Loops/Markers to Params" is checked (and it normally should be), the selected start/end times and any Markers are echoed on the Parameter Page. For PROCESS SELECTION, you can see and play the source file (as before), and clicking SHOW SELECTION will insert the imported Start/End times into the display for reference. The length of the source file and the selection are also given:



For PROCESS SELECTION, it is important to be aware that the actual file being processed is the ***selected segment*** cut by Soundshaper behind the scenes. For this reason, time-based parameters will reflect the ***segment times***, not those of the original source file. For example, with a segment of 1", Drunk (RE-ORDER Menu), parameter 2 StartTime, shows a range of 0-1":

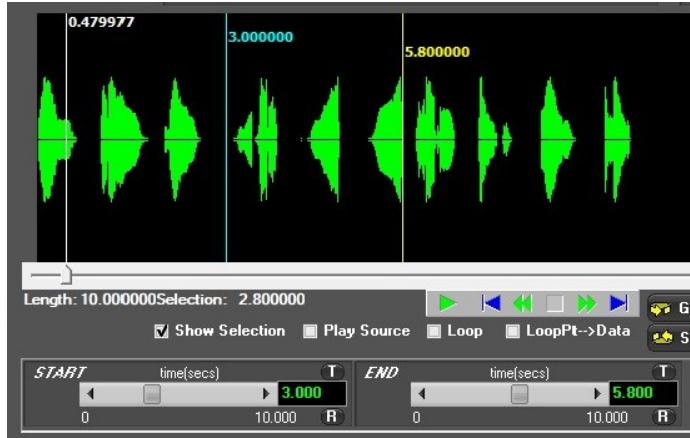


In other words: a time-range under PROCESS SELECTION is likely to start at 0, that is 0 seconds within the segment. (Of course you could change this.)

This might seem a little confusing at first, but it reflects how the whole procedure works in the background: the source is CUT to extract the segment, and also EXCISEd at the same time-points to create a file to paste into after processing. It is the ***segment*** that is presented to the parameter page; after clicking RENDER or PREVIEW, Soundshaper pastes the resulting segment into the saved ***paste-file***, which becomes the output file.

## PARAMETER PAGE: Parameter Group

For the PARAMETER GROUP (provided Option 3 is checked), any START-time and END-time parameters are automatically filled from the input file's selection times (loop-start and loop-end). These times are also reflected in the soundfile display if SHOW SELECTION is clicked:



As in previous versions, those parameters also display a little T-Button: if any Marker times have been set or imported, clicking this button transfers the relevant Marker 'From' or 'To' time to the parameter. (Manual editing of the parameters is also possible, of course.)

Many of these processes return loop points to the output cell (though for others this is not suitable). The returned times are those entered in the appropriate parameter boxes.

## PREVIEW

As before, you can preview various chosen parameter values for the processed segment, on the Parameter Page. For PROCESS SELECTION, the result is shown within the context of the whole file, but the segment times don't change: when you preview different parameter settings they are all processed using the original cut segment.

## RE-EDITING / CHANGING SEGMENT TIMES

Re-editing an output cell, like the original process, takes the segment times from that cell's ***input cell*** (normally the one to its left). This means that if you want to change the segment times, alter them in the ***input cell*** but double-click on the ***output cell*** to re-edit it.

Note that if you alter the segment times in the output, e.g. to play the whole file, you appear to lose them, but they can be recovered from its input file via the Markers: GET LOOPS from the source, SET LOOPS in the output cell. (A facility to copy segment times from one cell to another may be included the release version.)

## FREQ. ANALYSIS and other CDP FILES

Spectral processes are also included in PROCESS SELECTION. The output cell is coloured aqua for an .ana outfile, but it normally has a parallel soundfile (providing Option 5 Auto-FFT is checked, as it normally should be). This not only enables the sound to be played, but also provides for the segment times to be altered for the next process, should you wish.

### FRQ / FOR/ EVL FILES

As touched on in the last paragraph, segment times have to be selected from a soundfile, not an analysis file or any of the other CDP file types. Several of these types have a recognised timelength, but as their cells cannot be played, **it is not currently possible to set segment times to process part of them**. Under PROCESS SELECTION you can, however, generate a segmented pitch (.frq), formant (.for) or envelope (.evl) file from a soundfile source, using the loop-times set in the source file.

## INFORMATION FUNCTIONS

Information can also be got from a soundfile using PROCESS SELECTION, including spectral, pitch-data and formant information (Soundshaper auto-converts the selected segment into the appropriate file-type for the purpose).

Or, if you prefer, you can extract a pitch-data, formant or envelope segment, using PROCESS SELECTION, and then get information on what is now the WHOLE FILE.

## OUTPUT CHANNELS DIFFERENT FROM INPUT

(Stereo and multi-channel inputs and outputs)

PROCESS SELECTION supports the many "ordinary" CDP processes that will work with mono, stereo and multi-channel inputs and produce the same channels as output.

### INPUT CHANNELS

There are just as many processes, however, for which CDP natively specifies mono input(s), or less frequently compulsory stereo, and occasionally multi-channel. Soundshaper's standard WHOLE-FILE mechanism here is to channelise the input (typically into monos), process these separately and interleave or mix the outputs afterwards. For these, PROCESS SELECTION generally supports mono and stereo inputs and may give a message if the multi-channel input is not supported. For example, GRAIN ('brassage') and TEXTURE produce stereo output, natively from mono input. In these cases, Soundshaper supports mono or stereo input for PROCESS SELECTION, but not multi-channel. (although MC-in is fine for WHOLE-FILE.)

### OUTPUT CHANNELS

The same goes for multi-channel outputs, often set on the parameter page, for example MchZig, MchIter, SpinStereo, Phasor etc. Clearly if the output is stereo or multi-channel, the pastefile created under PROCESS SELECTION must have that channel-count: for these, 2 and 4-channel outputs are supported, but not more. Again, a message is given if there is no support.

## NOT SUPPORTED

Also not supported for PROCESS SELECTION are:

- MULTIPLE-OUTPUT PROCESSES, such as Randchunks, Partition, Isolate, Inbetween, SplitChans etc.
- Most channel-selecting and altering procedures (for example Mono to Stereo) are excluded and should automatically switch to WHOLE-FILE.
- PITCH-DATA and FORMANT processes, and SPECTRAL, PITCH-DATA and FORMANT processes requiring second infilenames: the segment can't be selected.
- Mixfile, Datafile and functions involving breakpoint files - not relevant.

## SECOND INFILLES

These must have CDP's native channel-count (usually mono!). For example, SHIFTER, natively mono-in, works with a stereo 1st file and mono Infils 2,3... Where required, secondary infils should have the same number of channels as the primary source file, to avoid a CDP error. Examples include MIXTWO and MIX-BALANCE.

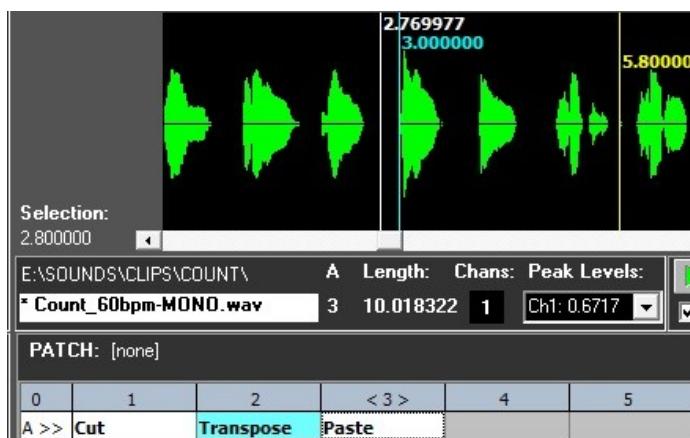
## PRESETS and PATCHES

New patches save data for segment start and end times, which can be reproduced when the patch is run. Older pre-existing presets and patches should be unaffected by the PROCESS SELECTION changes, as they simply do not have this data, so will run on whole files. The former CUT-PASTE mechanism created explicit cells with segment cuts and pastes and should likewise be unaffected.

For new patches, note that the segment times are absolute, not proportional to the file-length, and therefore may not work properly with a different source or sources.

## 'MANUAL' CUT and PASTE

It is still possible to extract and process a portion using individual processes. CUT out the segment, process it and then select PASTE to insert this into the file of your choice. PASTE is slightly different from INSERT (though both use CDP sfedit insert): INSERT puts the 2nd sound into the 1st - the current cell. PASTE reverses this, inserting the current file (typically the processed segment) into the 2nd file (typically the source). If the 2nd file has a segment start-time (e.g. used for the CUT, that is also used for the PASTE):



## NEW PROCESS: OVERWRITE SILENCE

The standard INSERT SILENCE - sfedit insil - pushes the file apart, but insil also has an overwrite option, now available in the Edit menus, called OVERWRITE SILENCE. Using PROCESS SELECTION, this replaces the chosen segment with silence:



If you choose WHOLE-FILE by mistake, it switches to SELECTION. (And if you haven't selected a portion, you're attempting to replace the whole file with silence, which naturally generates a CDP error!)

## BALANCE OPTION

Some PROCESS SELECTION results have a markedly different level in the processed segment (see e.g. MchIter: Iterate Process 2). This can be corrected with BALANCE (modify loudness 5) using the same segment.

A BALANCE option has been added to the parameter page, which applies Balance automatically. Tick the BALANCE checkbox where shown. (The checkbox is invisible for certain categories of processes.)

## KNOWN ISSUES and CAVEATS

Given that PROCESS SELECTION and the PARAMETER GROUP together comprise all of the CDP suite, it would be surprising if there weren't some anomalies still to sort out.

Please report any you find, so that the final release can be tweaked to give a correct or better performance. (Email Robert Fraser at [ensemble-software@hotmail.com](mailto:ensemble-software@hotmail.com))

Known issues with PROCESS SELECTION include:

**EXPAND** (CDP spec magnify): WHOLE-FILE, otherwise it seems to returns silence. Output is segment only.

**PSINTERP**: not working anyway, even for WHOLE-FILE.

**CASCADE** Mode 1 crashes with stereo infile (OK with WHOLE).

**SPIN STEREO** modes 2 & 3: not supported; produce errors. Mode 1 works with M/S/MC-in (output is stereo)

**SPIN QUAD**: no idea!

**TOSTEREO**: Mono-in Modes 1 & 2: Error: "File is already stereo" (possibly because the segment has already been converted to stereo?)

Stereo-in Modes 1 & 2: OK. Quad-in: not suitable.

**Restore Whole File:**

In SSH 6.2, every Process-at-Loops/Markers was cancelled after processing (→ Whole File). This no longer seems appropriate, but there is still a "Restore Whole File" group, which needs editing. Some may still cancel when it might be better if they didn't.

**OTHER PROGRAM CHANGES in 6.3 Beta**

**Paste Buttons** removed; Paste items in menus edited to give Manual Paste (see above).

**Option 2:** was Paste Preview - no longer valid, so removed from Options and Settings. Another action may take its place later.

**Band:** removed from Xtra group, as not currently supported.

Robert Fraser,  
Ensemble Software,  
September 2024