



PROSONIQ sonicWORX[®] Batch Processing User's Manual

Version 2.5

Manual written by Frederic Schelling

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Very special thanks go to Drazen Vlahovic of YELLOWTOOLS for his ongoing need
for "cool" batch processing and for his comments, ideas, bug reports and suggestions.

Many thanks also to all of our active beta testers, especially Andrew and Michael.

Last but not least, Tony and Stephan for helping me with this manual.

September 2001

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1. Welcome

to sonicWORX batch processing. This manual describes the features and the use of the batch processing functionality of **sonicWORX 2.5**. Batch processing has been a long awaited addition to sonicWORX and raises its value as a professional audio editing, processing and mastering software by orders of magnitude. Whereas the given functionality of sonicWORX has already been acclaimed by users as being of superior quality and usefulness, the fact that DSP processing and juggling with high volumes of data keeps you waiting often enough for the current process to be completed should be seen as something a modern, or, by that means, "supposedly intelligent" software should try to avoid, if possible.

What can be more time-saving, in terms of time spent sitting in front of the computer, than first telling the software what editing or processing steps it should perform and which files to process and then letting the software do its job, while having the freedom to do anything more sensible or pleasing in the meantime.

Essentially, this is what computers are commonly thought of being made for in the first place, but reality teaches us differently in most cases.

When designing the batch processing feature of sonicWORX, we wanted to make it the most flexible and powerful batch processor on the market. Just think of any other software which can automatically save files in three different formats into three different folders, let's say, WAV versions into the wav folder, dithered 8 bit AIFF versions into an aiff folder and split stereo versions into yet another folder. Or imagine you have a bunch of 24 bit files to put on a CD and you want to convert all those files to 16 bit files, but you want to try out three versions of dithering with every file. Or, even more yet, you have 4 different VST plugin setups (each with an unlimited number of any combination of VST plugins) for mastering purposes and you want to process your 20 songs with each one of these 4 setups, to be truly able to compare them to each other and find out the best setting. Every one of these examples can be done in one single batch run, without the need of interacting with the user.

Then, imagine having total control of the batch process, being able to stop it at any desired point, saving its current status, quitting sonicWORX, and later resuming where you left off. Combine all this with a truly informative batch window that keeps you informed on the current status of every file, reporting every error that possibly occurred with an explanatory error message and of course continuing the work if there are no fatal errors (like the hard disk getting full, for example). Not mentioning that all this

can be let running smoothly in the background while you can do other things on the same computer. And all the batch setups you make can be saved and reused at a later time, for another project.

We hope that you find this exciting new feature useful and we would of course be very happy to hear from you about any related comments or suggestions.

Have fun,

The Prosoniq Software Team.

2. Manual Notes

This manual describes the batch processing feature of sonicWORX. It is divided into a quickstart section for those of you who can't wait, a detailed in-depth description of all the features and functions and an examples section.

First time sonicWORX users should first get acquainted with the basic concepts of the software, which is described in the main sonicWORX User's manual. You should at least know how to open and edit audio files, add offline plugins to a parameter window (now called "Offline Window") and process an audio file with offline plugins.

3. Batch Processing Quickstart Guide

Following is a very short explanation of how to get a batch process running in a few minutes:

1) **Open a new Batch Window.**

Choose "New Batch Window" from the file menu

2) **Drop items into Batch Window.**

Switch to the Finder and drop any number of files and/or folders into the batch window.

Alternatively, if you have a number of audio files already open and want them to be processed, hold down the option key and choose "Add All To Batch" from the "Windows" menu.

3) **Select processing steps from the "Offline" menu.**

Select any number of offline plugins from the "Offline" menu. They will be added into a new offline plugin window (formerly called "Parameter Window"). The plugins added to the offline window are now executed in the order they appear in the plugin list. Note that you now can change the ordering of the plugins using drag & drop.

There is a new category at the end of the "Offline" menu called "Batch Commands". The plugins in this category (which can also be selected from a popup menu at the bottom of the offline plugin window) are "special" plugins in that they do not directly alter or process the audio file in the sense of a DSP process, but they can do things you normally would have to do manually, like "Save" or "Save As", define a selection, insert silence at some point in the audio file etc.

4) **Add "Save" and "Close" plugins.**

If there are many files in the batch window (30 or more) you should add the batch command "Close Audio File" from the Batch Commands menu, since otherwise they would be left open after being processed, which could cause memory getting full. If you tell sonicWORX to close the file, you should also tell it to save the changes made to the file, otherwise the changes will be discarded when the file is closed. This can be achieved by adding one of the "Save", "Save As", "Save A Copy As" batch commands and placing it immediately before the "Close Audio File" command.

5) **Start batch processing by clicking "Process All"**

Click the "Process All" button in the batch window. The files will be opened (if not yet open) and processed one by one. Sit back and enjoy the show.

Help! How can I stop the batch processing?

There are several different methods to achieve this:

- **Click the "Stop" button in the batch window.**
This will tell sonicWORX to finish processing the file it is currently working on and then stop. "Finish processing" includes all the plugins in the offline plugin window that have not yet been applied to the current file.
With this method, you ensure that all the files which have been processed, including the one that was being processed the moment you clicked on "Stop", have been treated in exactly the same way, that is, all the offline plugins and batch commands have been applied, including saving and closing, of course. This way you can safely continue the batch run at a later time.
- **Click the "Stop" button with the Option key held down.**
This will stop every processing immediately, leaving the currently processing file half way in the batch sequence. If the file has not been saved yet by one of the "Save" commands, you can close it (discarding changes) and later continue batch processing starting with this file.
- **Close the batch or the offline window or quit sonicWORX.**
This will bring up a dialog confirming that you really want to stop everything right now. If you go on, everything will be stopped immediately.

4. Using Batch Processing

This is the main section of the manual, where the batch processing features will be introduced in detail. At the end there is an examples section with examples of different complexity.

4.1 Introduction: Batch Processing – What is this?

Batch processing could be roughly explained as telling the computer in advance what jobs he has to do but not effectively starting those jobs yet. You build a sort of pile (or stack) of instructions for the computer that have to be executed in the order you told him. This could be also seen as a simple form of programming.

After you have prepared the list of things to do you tell the computer also on what data or objects (let us call them files) it has to execute its commands or jobs. So, usually, the list of commands is exactly the same for all the files to be processed. You could compare it with somebody preparing a promotional mailing: he has to (1) take the mailing letter, (2) fold the letter in some way so that it fits into the envelope, (3) put it into the envelope, (4) close the envelope and (5) put a stamp on the envelope. These same five steps are repeated for every single letter of the many to be sent out. If we now had a machine capable of doing these things automatically and in sequence, all we had to do is to tell it the desired things to do and place a pile of envelopes and letters into its input trays. After this preparative steps, all we must do is push a button and the whole job gets done automatically. In the same way sonicWORX can process a lot of files with a certain sequence of commands, let us call them plug-ins.

4.2 Batch Automation Features – What can it do?

"Batch Processing" in sonicWORX is meant as a tool to process a lot of audio files with one specific sequence of actions and DSP processes. A typical example would be normalizing 500 audio files, or inserting 2 seconds of silence at the beginning and the end of 2000 audio files. The things that can be automated with sonicWORX batch processing include, among others, many of the commands and functions otherwise available only through the use of the menu bar. Examples are saving files, inserting silence at a certain position in the file, deleting a specified portion of the file, etc.

Of course, the core of sonicWORX' processing capabilities, the offline and realtime DSP functions, form the central part also of batch processing, since this is what so-

nicWORX is all about. This means that you can automate such comparatively simple tasks like applying sample rate conversion and dithering to 20 files recorded at 24bit/96kHz to convert them to CD standard 16bit/44.1kHz with sonicWORX' high quality conversion algorithms, saving them all into a separate "output" folder.

The following, more sophisticated examples show that sonicWORX batch processing can not only save you a lot of time, trouble and work, but can open up extended possibilities of achieving better audio quality that would be nearly unreachable without batch processing, or at least without spending a multiple of the originally planned time on the process.

Imagine being able to automatically save your files with three different dithering setups. Take your 20 files from the previous example; those files must be converted to 16 bits for the CD format. You want to try out three different dithering methods that you assume being adequate for your audio material, let's say two of those integrated in sonicWORX and an additional dithering algorithm coming as a VST plugin from a third party company.

Because you don't usually have an unlimited amount of time to play around with optimizing the last 2 percent of audio quality, or say that you surely have still other important things to do, without batch processing you would restrict yourself to take three or four of those 20 files, apply the various dithering methods to a couple of short audio segments and then decide which one to take. With more than just a basic amount of experience you could then be about 90% sure that your decision about which dithering method suits best for your material is right.

With batch processing, you would have the freedom to process all 20 files with all of the three dithering plugins and save them to their respective folders. With essentially one single click you would get three folders, labeled "Dither 1", "Dither 2" and "Dither 3", each with all of your 20 files ready to be listened to and evaluated. And don't forget that, at the same time you decide which version to take, you have it there ready, waiting to be burned onto the CD master. This means that you would not have to decide before doing the actual processing, and you would not have to sit in front of the computer, manually processing every single file once a decision is made. The best thing about all that is that while all this is happening, you can just spend your time with all the other things still waiting to be done.

Of course, this example can be expanded to also include any other and any combination of sonicWORX' offline and realtime DSP processing algorithms, not mentioning all the possibilities you have when integrating other VST plugins into this process. Just think of applying five different compressor settings to a file (or let it be 20 files or 2000) to be judged upon later, when all processing is done, without the need to wait for the processing to finish or even sitting in front of the computer all the time.

4.3 Batch Related Items in sonicWORX

The Batch Processing feature of sonicWORX is implemented mainly using three types of objects or items:

- The **Offline Plugin Window** (formerly called "Parameter Window"): the list of added plugins in the left half of the window is used as a list of things "to do" during the batch run. You can add as many offline plugins as you like - they will all be applied to an audio file in the order in which they appear in the list, from top to bottom. Note that this is different from the normal (manual) use of these plugins. When applying them manually to an audio file, only the plugin currently selected in the plugin list is executed, whereas during a batch run, all the plugins in the list are executed in sequence.
- The **Batch Window**: this is a separate window (new in version 2.5) with which you define which audio files to process in the batch run and from where the whole batch process can be monitored and controlled.
- The **Batch Plugins**: these "special" plugins look almost like the normal offline plugins available from the "Offline" menu, but actually they are only used to automate special tasks, like saving, closing processed files, deleting or inserting audio data etc. They can be freely combined together with the normal offline plugins in any order within the list of plugins in the offline plugin window.

4.4 Configuring The Batch Process – The Offline Plugin Window

In this chapter you will learn how to define what exactly you want being done with your audio files during the batch run.

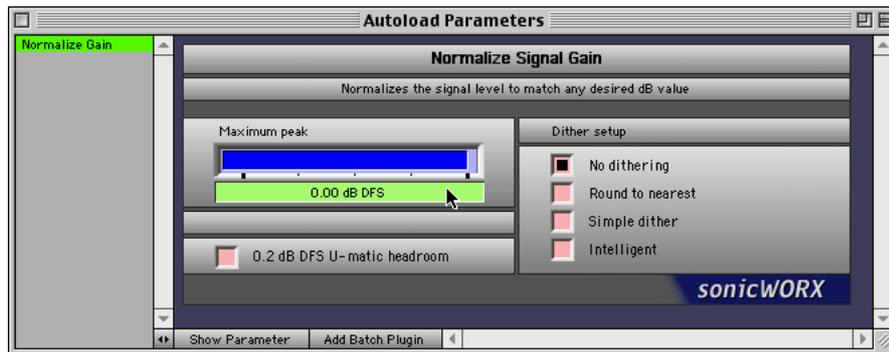
4.4.1 Adding Plugins

Configuring a batch process is as simple as adding one or more offline plugins to the offline plugin window. To add such a plugin, choose one from the "Offline" menu. The **Offline menu** is divided into categories, grouping together the multitude of offline plugins available into sensible groups. The plugins of a group are accessible from the submenu that pops out when selecting that group.



For a detailed description of this menu and its submenus please refer to the main sonicWORX user's manual.

When you select a plugin from the Offline menu, a new, untitled "Offline Plugin Window" will be opened if there is no one open yet and an entry with the name of the plugin will be added to the **plugin list** in the left side of the window.



In the above image, the "Normalize Gain" plugin has been selected from the Offline menu and has been added to the otherwise empty plugin list in the offline plugin window. For a more detailed description of this window please refer to the main sonicWORX User's manual.

4.4.2 Plugin Execution Scheme

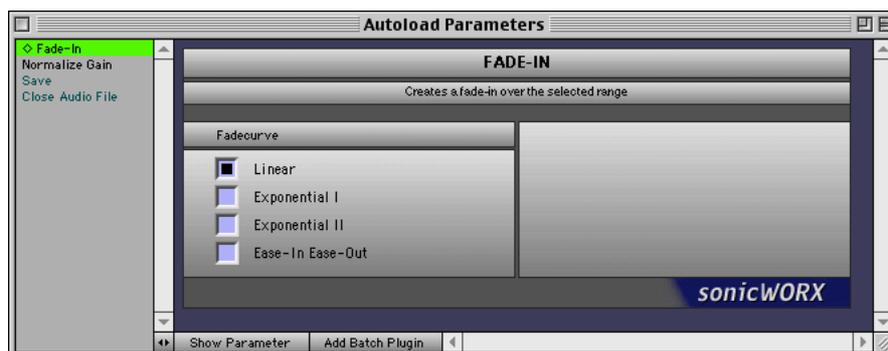
The main difference to the previous versions of sonicWORX is that the offline plugin window (we'll call it offline window for simplicity) now is not only a means of collecting otherwise unrelated offline plugin settings, but it is the key to setting up the batch process itself. The trick is that during batch processing, all the entries in the list are applied to the audio file(s) **one by one, from top to bottom**, in exactly this order, for every audio file that has to be processed. When starting to process an audio file, sonicWORX automatically switches to the first item in the list, uses it to process the au-

dio file, then switches to the next item and processes the audio file with it and so on, until the end of the list is reached. Whether the audio file should then be saved, closed, or both, can be freely configured.

Of course, as the order in which the plugins are listed in the offline window starts to matter, the possibility of **reordering plugins** becomes vital for the user to be able to configure a somewhat sensible arrangement. For these purposes, the entries in the plugin list can be reordered by dragging them around with the mouse. Click on the entry to be moved and hold the mouse button while moving the mouse over any other position in the plugin list. A horizontal bar between adjacent entries shows you where the entry will be placed when you release the mouse button.

4.4.3 Plugin Types – "Normal" plugins vs. "Batch Plugins"

For the possibilities of batch processing to not be limited to just applying some DSP algorithm to the audio material, a special offline plugin category has been added to the Offline menu, which is called "Batch Commands"; it is the last item in the Offline menu. Those special offline plugins, let us call them **batch plugins** are different from the "regular" offline plugins because most of them do not directly alter the audio material, but they can instead perform actions that until now could only be manually triggered by the user. Typical actions which are now automatable through the use of these batch plugins include saving an audio file (after it has been altered by some other plugin), saving a copy or a portion of the file, clearing or deleting a specified section, applying the realtime DSP page on the file, selecting a specific area of the file for further processing and more.



In the example in the preceding image, the offline window is configured so that sonicWORX will take each audio file, open it (if it is not already open), applies a fade-in to the audio file, then normalizes the file, saves it and at last closes it.

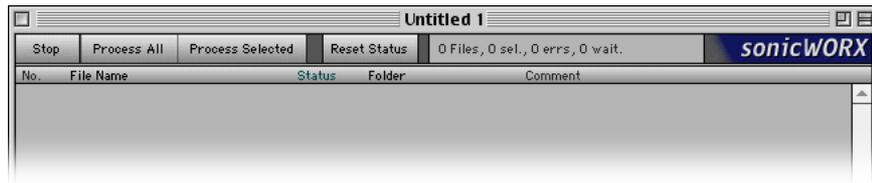
Note here that the plugin names in the list are shown in two different colors. This is a visual aid to distinguish "normal" offline plugins from batch plugins more easily. "Normalize Gain" and "Fade-In" are normal offline plugins, which modify the audio

material, whereas "Save" and "Close Audio File" are batch plugins which just trigger some actions you normally would have to perform yourself with the mouse or the keyboard.

4.5 Selecting Audio Files for Processing – The Batch Window

After having defined **what tasks to perform** during batch processing by setting up the offline and batch plugins in the offline plugin window, you need to specify **which files to process** by selecting one or more audio files and folders for the processing.

To do this, select "New Batch Window" from the "File" menu, which will open an empty **batch window**. The batch window is the place from where you control the progress of the batch run and where you can check if everything proceeds as expected or if any unexpected errors happened during the process, like your hard disk getting full, memory getting low, files being locked (therefore not being able to save changes) or any other problem that might arise.



The biggest portion of the batch window is used up by the **file list**, which is currently empty in the example shown above.

4.5.1 Adding and Removing Audio Files

The file list is the place where you see which files are scheduled for processing during the batch run. With the file list you tell sonicWORX which files you want to process by adding them to the list. **To add files**, simply switch to the Finder, select any number of files or folders and drag them over the batch window with the mouse. The borders of the batch window will be highlighted if and while the items you drag over the window are audio files sonicWORX can process. If you drag a folder over the window, it doesn't matter if there are other items like text files or other non-audio documents; sonicWORX will add only those items it can open, currently AIFF, WAV and SoundDesigner II files.

To add an already open audio file, go to the "Windows" menu and select the "Add Audio Window To Batch" menu command. This will add the file corresponding to the

frontmost audio window to the batch window. If you want to add **all open audio files**, hold down the **Option** key on the keyboard and select the command "Add All To Batch" from the Windows menu.

The added files will be listed in the order you added them. Adding a group of files will add them in alphabetical order as long as they are contained in the same folder. If there are folders among the items you add, their contents will be added as one block of alphabetically ordered files. Currently there is no possibility to change the ordering. If this possibility should be of vital importance to you, please send an email with your suggestion to our support center.

To **remove a file** from the file list, click on it in the batch list and type the "Backspace" key on the keyboard or choose "Delete" from the "File" menu. Note that this will of course not delete the file from your hard disk, but just remove its entry from the file list in the batch window.

To **remove a group of files**, select the files (see below for various multi-file selection options) and type the "Backspace" key on the keyboard or choose "Delete" from the "File" menu.

If you hold down the **Command** and the **Option** key simultaneously while deleting files, those files will not only be removed from the batch window, but they will also be moved to the trash (of course, they can still be moved out of the trash until you empty the trash from the Finder.)

4.5.2 Selecting Audio Files

To **select more than one file**, choose one of the following methods:

- To select **one single contiguous range** of files, click on the first file of the range, then hold the **Shift** key on the keyboard while clicking on the last file.
- To select **several contiguous ranges** of files proceed as before with the first range, then hold the **Command** key on the keyboard while clicking on the first file of the second range, then hold the **Command and Shift** keys while clicking on the last item of the second range. Proceed like this with all further ranges to select.
- To select **several single non-contiguous files**, hold down the **Command Key** while clicking on them.

As an aid to remember the meaning of the Shift and Command keys more easily, always keep in mind that

- the **Shift** key is used for selecting a **contiguous range** of files
- while the **Command** key is used when you want to select files (be that single files or ranges of files) **without altering the existing selection**.

4.5.3 Opening and Playing Back Files

If you want to reassure yourself that a specific file in the file list is the one you intended to process, you can **open the file by double-clicking** on it. If you just need to play back the (closed) file to get the idea, hold down the **Control** key while clicking once onto that file. This **plays back** the file without opening it.

4.6 Managing and Controlling a Batch Process

A batch process is, due to its very nature, usually a lengthy task, which can take from some minutes to several hours of time or even whole days to complete. Typically you will leave the computer alone during most of this time, or at least not interfere with its actions (see the "Tips & Caveats" section for additional considerations on this topic.) Nevertheless, you must certainly be able to reassure yourself that everything is proceeding as it should. To enable the user to do this quickly and painlessly, the batch window provides a clear and concise visual feedback about what and how the batch process is doing while it runs.

In addition, being able to stop and restart the batch process at any point is of course a basic requirement.

4.6.1 Starting and Stopping a Batch run

Now that you have set up the list of files you want to be processed, you can **start the batch run** by clicking on the "Process All" button. If the batch run could be started successfully, the "Process All" button will highlight to indicate that a batch run is currently in progress which will process **all the files** in the window. At this point all you have to do is wait until the batch run completes.

If you want to process only **a portion of the files**, select the files to be processed as explained in the previous section and click on the "Process Selected" button. Now the "Process Selected" button will be highlighted instead and only the selected files will be processed.

To **stop the batch run cleanly**, click on the "Stop" button. The Stop button will begin to flash intermittingly, thus indicating that it has acknowledged your request to stop. As soon as the currently processing file has been completely processed (this means that it has been processed by *all* the plugins in the offline window), the batch run will be stopped. This is the preferred method to stop a batch run since it ensures that the file currently being processed is not left half-way in the process. Please see also the section "Tips & Caveats" for a more detailed description why you should prefer this method.



While the Stop button is flashing, you can click it one more time to cancel the Stop request if you have changed your mind and don't want to stop. The Stop button will then stop flashing (-;) and the batch run will continue normally.

To **stop the batch run immediately**, hold down the **Option** key and click on the "Stop" button. This will halt all processing instantly, leaving the currently processing file where it was at that time. Use this only in case of some emergency situation where you feel it is appropriate. Again, see the section "Tips & Caveats" for an explanation of the consequences of such a measure.

You can stop the batch run instantly also by closing the batch window or the offline window or just quit sonicWORX. Nevertheless, before the batch run is actually stopped, you will be asked if you are sure that you want to do this. If you click on the "Cancel" button then the batch run just continues, while clicking on the other button ("Quit" or "Close Window") will stop batch processing so that the corresponding window can be closed or the application can be quit like you requested.

Also, please refer to the section "Tips & Caveats" for some hints on how to behave while a batch run is in progress.

4.6.2 Observing the screen during Batch Processing

While the batch run is going on, you will see several things happening on the screen:

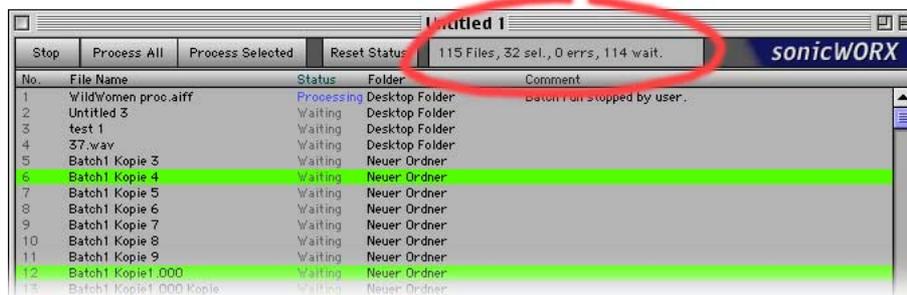
- Immediately after you started the batch process, all the files which are scheduled to be processed will have the word "Waiting" in their Status column (refer to a later section for an explanation of the columns in the file list.)
- Audio files will open, selections will change, you will see offline plugins do some DSP processing with the audio file etc. This of course depends on the plugins you have added to the offline window. If you have added the "Close Audio File" batch plugin then the audio file will also be closed again after it has finished processing.
- As long as you have added more than one single plugin to the offline plugin window, the currently selected plugin will continuously change, which of course also changes the contents of the plugin parameter settings area on the right half of the offline window. Here you can reassure yourself that all the plugin parameter settings you have made before starting the batch run are correct. It is

not possible to change them while the batch run is underway, so there is no danger of possibly processing one file with different settings by accidentally modifying a parameter value. You can also safely move or resize the offline window or scroll its contents to be able to see all the parameters of the currently executing plugin.

- The most important thing you should have an eye on is the batch window: here you can see exactly which file is currently being processed, which files have been processed successfully, which files are still waiting to be processed and if there have been any errors during the batch run.

4.6.3 Monitoring the Batch Process

The batch window gives you all the information you need about how the batch run is proceeding. There is a small information area at the top that gives you a short summary of the current status. Here you can quickly check how many files are in the window ("xxx Files"), how many files are selected ("xxx sel."), how many files have shown errors during processing ("xxx errs") and how many files are still waiting to be processed ("xxx wait.").



In the file list of the batch window you can see similar information for every single file. Following is a description of the various columns visible in the file list:

- | | |
|-----------|---|
| No. | This column is just for numbering the files and for keeping track of where in the list a specific item is located. |
| File Name | This is the name of the file as it appears in the Finder. Nothing special about this. |
| Status | This is the most important column in the file list. It tells you what state that file is in. These are the possible values: <ul style="list-style-type: none"> Waiting This file is scheduled for processing. Processing This file is currently being processed. |

| | |
|------------------|--|
| Processed | This file has been processed completely and successfully , but it has not been saved with one of the "Save" or "Save As" batch plugins. If it has not even been saved in whole with "Save A Copy As" or in part with "Save Selection As", then the use of the "Close Audio File" batch plugin will throw away all of the changes made to the file. |
| Saved | This file has been processed completely and successfully and has been saved with the "Save" or the "Save As" batch plugin. Using the "Save A Copy As" plugin does <i>not</i> yield this status, since it does not save changes to the <i>original</i> file. |
| Error | While processing this file, an error has occurred . It may be an error related only to this file (for example if the file is broken for some reason), in which case batch processing will continue with the other files, or it may be a global (or fatal) error, like a disk full or memory full error, in which case the batch run is stopped immediately. |
| <no value> | If nothing is displayed in the column for a file, then either that file is not scheduled for batch processing, and/or it has never been processed. Note, however, that the "Reset Status" button (explained in a later section) clears the status of all files, therefore this is not a guarantee for the file being in its original, non-processed version. |

4.6.4 Advanced Features

The status of the files displayed in the "Status" column does not have only pure informational purposes, but also has some effect on the behaviour of the "Process All" button. Specifically, files which are in the status "Saved" are not processed any more when clicking on the "Process All" button. The idea behind this is that you can stop the batch run at any point and **resume it later**. If you click the "Stop" button, the currently processing file will be finished processing and eventually be saved (if you are using the "Save" or "Save As" batch plugin). The file is marked as "Saved" in the batch window. Now you can do whatever you want to do, even quit sonicWORX or shut down the computer. If you want to continue at a later time, just reopen the batch window (this is one reason why it is recommended that you always save the batch window, especially if you have a huge amount of files to process) and of course also reopen the corresponding offline window and you can continue where you left off just by clicking on "Process All". This will mark all files that are not in the "Saved" status with the status "Waiting", which means that they are going to be processed.

Also, you can **reset the status of the files** with the "Reset Status" button at the top of the batch window. This can be useful in the following cases:

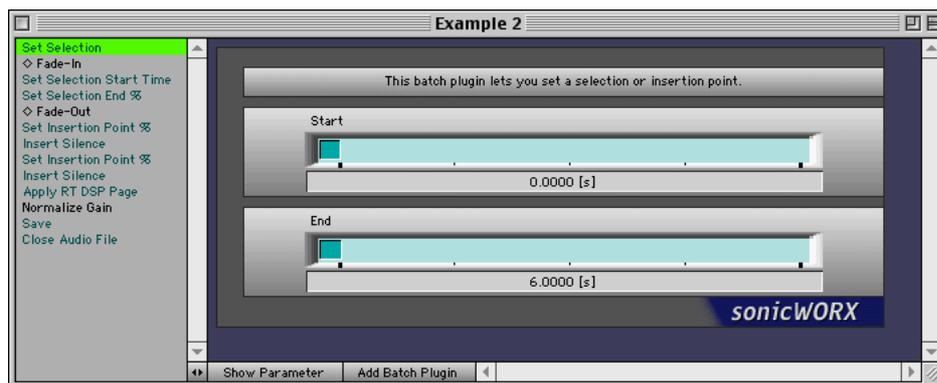
- You have configured a batch run and would like to test if everything has been configured correctly. For these testing purposes, you have not yet added the "Save" and "Close Audio File" plugins to the offline window, so that after processing the audio files remain open. Now you can check the files if they have been processed correctly. If you then want to start the batch run once again, you can click on "Reset Status" before starting the batch run to clear the status of the files.
- You are using the "Save As" plugin to save the files into a separate output folder. In the middle of the batch run you notice that you have forgotten something and stop the batch run. Now you change some settings in the offline window and want to start the batch all over again. But if you click on the "Process All" button, those files which have already been processed have the status "Saved" and are not selected for processing any more. So you use the "Reset Status" button to reset all the status information and starting the batch run will again select all the files in the list.

The contents of the batch window and changes of the audio files' status in the batch list **are automatically saved** during the course of the batch run, so in case a fatal situation (like a system crash or other circumstances that prevent sonicWORX from continuing) should occur, the batch window reflects the actual progress of the batch run up to that point.

5. The Batch Plugins

In this section you will learn about the Batch Plugins, the "special" offline plugins which are not provided to do DSP processing but instead to automate certain tasks like deleting audio material or inserting silence, renaming, saving and closing audio files etc.

All the available batch plugins can be selected from the "Offline" menu. They are grouped together in the "Batch Commands" category, which is the last entry in the "Offline" menu. After selecting an offline plugin from that menu, it will be inserted at the end of the plugin list in the offline window.



The names of the batch plugins are drawn in a greenish-blueish color which is also used in other places and throughout the whole user interface, as a visual hint meaning that the respective area or item is related to batch processing in some way.

The order in which offline and batch plugins are executed is of course very important. Since adding an offline plugin always appends it to the end of the plugin list, you can reorder the plugins at will by dragging them to a different location within the list using the mouse.

Some batch plugins, like the "Save As", "Save A Copy As" and "Save Selection As" plugins, have a parameter called "Output Folder". Except for the "Save As" plugin, you must specify a folder here, otherwise that plugin cannot be executed and the batch run will be stopped at this point. This and other things to observe are explained in detail for every batch plugin.

5.1 Batch Plugin Reference

Now follows a detailed description of the single plugins. The plugins are listed here in alphabetical order. Every plugin is described in its functionality, its parameters and in a section about additional steps necessary to be taken for setting it up or any special things to be observed.

The "Parameters" of a plugin are the various sliders, checkboxes and other elements that appear in the right half of the offline window when selecting that plugin from the plugin list on the left. Many of the batch plugins do not have any parameters, like the "Close Audio File" plugin.

The term "current file" is used throughout the descriptions as to denote the audio file which is currently being worked upon by the batch process.

5.1.1 Apply RT DSP Page

Description: this plugin applies the Realtime DSP page (available only in the Studio and PowerBundle versions) to the current file. Using this plugin is the same as clicking on the "Apply To File" button in the Realtime DSP window.

Parameters: "DSP Page Snapshot". With this parameter you can define which one of the 4 pages in the realtime DSP window should be used for the processing, or if the snapshot which is currently active should be used.

Additional information: this plugin needs a realtime DSP page to be open at the time it is executed. If there is no open DSP page, the batch run will be stopped completely.

5.1.2 Close

Description: this plugin just closes the current file.

Parameters: None

Additional information: since the current file will be closed after this plugin has been executed, no other plugins, whether offline or batch, will be executed if they appear after this plugin in the plugin list of the offline window.

It is recommended that you use this plugin if you have a larger number (about 30 or more) of audio files to process, since otherwise the processed files will all remain open, eventually leading to a memory shortage which can compromise the whole batch run.

5.1.3 Delete Channel

Description: this plugin deletes the left or right channel of the current file, if it is a stereo file. The resulting file will be a mono file. Please see the "Additional Information" section on how to generate mono files from stereo files. Files with only one channel (mono files) will not be altered in any way.

Parameters:

"Delete Which Channel" Choose which channel to delete, left or right (the left channel is the top channel in the wave window).
The other channel is not modified.

Additional information: if you want to convert a stereo file into a mono file, it is not sufficient if you just delete one of the channels, as long as the channels bear different signals. If this is what you want to do, you must use the "Make Mono" offline plugin first. That plugin adds up the two channels and distributes the resulting mono signal on both channels. After this plugin, you can use "Delete Channel" to remove either one of the channels.

5.1.4 Delete Selection

Description: This plugin removes the currently selected portion of audio material, resulting in a shorter file.

Parameters: None

Additional information: This plugin relies on an existing (non-empty) selection. See the various "Set Selection..." batch plugins later to learn how to make a selection during a batch run.

5.1.5 Delete All Markers

Description: This plugin removes all markers from the current file.

Parameters: None

Additional information: Use this plugin if you want to remove marker and/or AIFF loop information from the file.

5.1.6 Duplicate Channel

Description: This plugin replicates the channel contained in the current file if it is a mono file. The resulting file will be a stereo file (that is, a file with two channels) that has the same signal on both channels. Stereo files will not be affected by this plugin.

Parameters:

"Empty Channel" Check this box if you want to leave the newly added channel empty.

Additional information: The new channel will be inserted before the existing channel. If you have checked "Empty Channel", then after processing the left channel will hold silence while the right will hold the audio signal.

5.1.7 Export A Copy As

Description: This plugin can export a copy of the current file in audio formats not directly supported by sonicWORX. Currently these are PAF files and system sound files. In addition you can specify if you want the file to be saved as a split stereo file (does not apply for mono files).

Parameters: "File Type": please specify the file type here. PAF, system sound files and split stereo files can be imported into sonicWORX but cannot be opened directly. With "Output Folder" you can select where to save the exported files.

Additional information: You may specify an output folder or leave this parameter blank, in which case the file is saved into the same directory of the original file. Since this plugin has a lot of parameters, always keep in mind that you can activate "Balloon Help" in the "Help" menu to get contextual online help for any of the plugins and its parameters.

5.1.8 Insert Silence

Description: This plugin inserts a definable amount of silence at the current insertion position. The amount of silence is given in seconds.

Parameters:

"Length" Amount of silence in seconds.

Additional information: Since there must not be a selection made in the wave window before using this plugin, you must use one of the "Set Insertion Point..." batch plugins or, if you want to set the insertion position in samples instead of seconds, you can use the "Set Selection Start Sample" batch plugin.

5.1.9 Insert Silence Samples

Description: This plugin inserts a definable amount of silence at the current insertion position. The amount of silence is given in samples.

Parameters:

"Number Of Samples" Amount of silence in samples.

Additional information: (Same as with "Insert Silence"): Since there must not be a selection made in the wave window before using this plugin, you must use one of the "Set Insertion Point..." batch plugins or, if you want to set the insertion position in samples instead of seconds, you can use the "Set Selection Start Sample" batch plugin.

5.1.10 MakeEven

Description: This plugin removes the first sample on 24bit mono files which have an odd number of bytes.

Parameters: None

Additional information: This plugin has shown to be of value in situations where certain audio software would show misbehaviour when working with audio files in which the number of bytes in the sample data area is odd.

5.1.11 Rename

Description: This plugin can be used to change the name under which the file is going to be saved when using the "Save As", "Save A Copy As", "Save Selection As" or "Export A Copy As" batch plugins.

Parameters:

"Insert String"

The string (text) given here is **inserted** somewhere into the file name. If the parameter "Search String" is empty, then the Insert String is inserted **at the position given by** "Insert Position". If you enter some text into Search String, then the Insert String is inserted **where the Search String was found** in the file name. If "Replace Search String?" is checked, then the **Insert String replaces the Search String** instead of only being inserted in front of it.

Example 1: *Insert String* is "Rumble ", *Search String* is empty, *Insert Position* is zero. A file called "Noise 1" will be renamed to "Rumble Noise 1" (note the trailing space in "Rumble".)

Example 2: *Insert String* is "Fuzz ". *Search String* is "Noise". A file called "Hum 23" will not be renamed. A file called "Noise 14" will instead be renamed to "Fuzz Noise 14". If *Replace Search String* is checked, then instead the file would be renamed to "Fuzz 14" (with two blanks inbetween.)

- "Insert Position" Insert position gives the position where the *Insert String* should be inserted into the file name. A value of zero inserts the *Insert String* at the front of the file name. A (maximum) value of 30 inserts the string at the end of the file name. Any value in-between inserts the *Insert String* after that character.
- Note that file names on the Macintosh (up to Mac OS 9) can have no more than 31 characters, so be sure that your insert string length plus the length of the file names doesn't exceed this count, or else the file names will be truncated, possibly resulting in an error because of duplicate file names.
- "Search String" If you type text into *Search String* then the name of the current file will be searched for this text and any occurrence will be preceded by the *Insert String* or even **replaced** by the *Insert String* (if *Replace Search String* is checked).
- If you set the *Search String* to an asterisk "*", then every file name is matched, that is, the *Insert String* or the counter (see below) are applied to every file. This can be handy in the following example:
- Example: you want to rename all the files to process to something like "Project A <number>" with <number> being a counter (see below). This means that the resulting files should be renamed, independently from their actual name, to "Project A 001", "Project A 002", "Project A 003", etc.
- To achieve this, set *Search String* to an asterisk "*", the *Insert String* to "Project A " (note the blank after the A) and *Counter Position* to "At End".
- "Replace Search String ?" When this box is checked and a *Search String* is given, then any occurrence of the *Search String* in the file name is **replaced** by the *Insert String* instead of being preceded by it.
- "Counter Position" In the Rename batch plugin you have the possibility of adding a **number** to the file's name. The number is **increased by one** for every file that is processed in one batch run. You can insert the number **at the beginning**, at the *Insert Position* or the **position given by the Search String** (this is the position where the search string occurs in the name of the current file), **after** this search position, at the end of the

name but before the "."-extension (like in "noise.aiff" for example), at the end of the whole file name or you can have also the counter only, thus replacing the file name completely.

"Counter Digits"

This sets the number of digits that the counter should at least have.

Example: when *Counter Digits* is set to 3, the counter will show up like "001", "002", ... , "030", "031", etc. The leading zeroes are important for the Finder being able to display the files in the desired (alphabetical) ordering.

"Counter Start Value"

This just sets the value the counter should begin with when starting the batch run.

"Use Original Name ?"

This option is of interest only in those cases where you are using the Rename batch plugin multiple times within a batch run (that is, if there are two or more Rename plugins in the plugin list, see below). If this box is not checked, the first Rename plugin in the plugin list will use the file's name, but the second Rename plugin in the list will use the name which possibly has been changed by the first Rename plugin. A third Rename plugin would be fed with the name possibly changed by the second plugin and so on. If you want a Rename plugin to always be applied on the file's real name, regardless of other Rename plugins possibly having changed that name before, check this box.

Additional information: if it is necessary you can use the Rename batch plugin several times in a row, for example, if you want to add a string at the beginning and another string at the end or any other combination of uses.

Please note that the counter value **always restarts** at the value given by *Counter Start Value*. That is, if you stop a batch run in the middle and then continue later, the counter value will **not** continue where it left off. This means that if you want to use the counter for numbering your output files, it is not a good idea to stop the batch run, unless you want to stop in order to start it all over again anyway.

Also note that renaming only works in conjunction with one of the "Save As", "Save A Copy As", "Save Selection As" and "Export A Copy As" batch plugins. Just using the Rename plugin without one of these plugins at a later point in the processing chain does not yield any effect. If you need to do tasks like automatically renaming files in the Finder, you should use one of the many available shareware applications, like "Drop*Rename" or the like.

5.1.12 Save

Description: This plugin just saves the changes made to the current file. It is the same as selecting "Save" from the "File" menu.

Parameters: None

Additional information: If you have **important or critical** files to process, it is always a good idea to duplicate the source folder containing the files in the Finder, and letting the batch process run on the copy. Any errors happening during the batch run may leave some files in an undetermined state, which is not always clearly noticeable. If you have been working on the copy, you can safely throw it away, make a new, fresh copy and restart the batch run.

The other possibility is to always use the "Save A Copy As" or "Save As" batch plugins, but keep in mind (see below also) that if you specify an output folder in those plugins, then **all the files** are saved into that same output folder, regardless of any sub-folders the original file may be in. This means that if you have arranged your files in a specific folder hierarchy and you want to retain that hierarchy also within the folder with the processed files, using "Save (A Copy) As" is not an option. Instead, use the "Save" batch plugin and process a copy of the source folder, as explained above. If you want to do format conversion also, refer to the "Save As" batch plugin.

5.1.13 Save A Copy As

Description: This plugin saves **a copy of the current file** to the specified output folder. The format of the saved file is also converted according to the specified format settings.

Parameters:

"Bit Depth", "File Type", "Dithering"

These are the usual format parameters. Refer to the appropriate sections in the main sonicWORX user's manual for an explanation of these settings. Their meaning and effect is the same as when saving a file manually using the appropriate menu commands in the "File" menu. Leaving a parameter on the "No Change" setting will use the current file's given value for this parameter. For example, to convert a mixed collection of AIFF and WAV files to 8 bit, you would just set the *Bit Depth* parameter to "8 bit" and leave the *File Type* parameter on "No Change".

"Output Folder"

This is the folder the files will be saved in after processing.

"Replace Duplicate Files" When checked, any files in the output folder which have the same name as one of the files to save during the batch process will be overwritten without warning.

Additional information: In this plugin the *Output Folder* **must always be specified**, otherwise the batch run will stop with an error. Also, it is not possible to replace the current file with it. To achieve this, please use the "Save As" batch plugin instead (see below).

The *Replace Duplicate Files* option is very useful if you are in the process of setting up a batch run and doing some testing if everything is setup correctly. During testing, most probably some files will be written to the *Output Folder*. Without this option, you would have to go to the Finder, deleting those output files manually before each new test run.

You can use this plugin several times in a row. See the "Tips & Caveats" section for some useful hints and instructions about this.

5.1.14 Save As

Description: This plugin saves **the current file** with the option of specifying a different format or output folder.

Parameters:

"Bit Depth", "File Type", "Dithering"

These are the usual format parameters. Refer to the appropriate sections in the main sonicWORX user's manual for an explanation of these settings. Their meaning and effect is the same as when saving a file manually using the appropriate menu commands in the "File" menu. Leaving a parameter on the "No Change" setting will use the current file's given value for this parameter. For example, to convert a mixed collection of AIFF and WAV files to 8 bit, you would just set the *Bit Depth* parameter to "8 bit" and leave the *File Type* parameter on "No Change".

"Output Folder"

This is the folder the files will be saved in after processing.

"Replace Duplicate Files"

When checked, any files in the output folder which have the same name as one of the files to save during the batch process will be overwritten without warning.

Additional information: In this plugin the *Output Folder* **may or may not be specified**. If you leave the output folder unspecified, then **the current file will be replaced**. If you specify an output folder, then the file is saved into that folder. The difference between this and the "Save A Copy As" batch plugin is that here the **current file is in the output folder** after the save. What this means is that if you do further processing after using "Save As", use of the "Save" batch plugin will save the changes to the file in the output folder, not the file originally dropped into the batch window.

The *Replace Duplicate Files* option is very useful if you are in the process of setting up a batch run and doing some testing if everything is setup correctly. During testing, most probably some files will be written to the *Output Folder*. Without this option, you would have to go to the Finder, deleting those output files manually before each new test run.

You can use this plugin several times in a row. See the "Tips & Caveats" section for some useful hints and instructions about this.

5.1.15 Save Selection As

Description: This plugin saves the currently selected range of audio data to a new file into an output folder, optionally in a different format.

Parameters: Please refer to the "Save A Copy As" batch plugin for descriptions of the identical parameters.

Additional information: this plugin is essentially the same as the "Save A Copy As" batch plugin. The difference is that not the whole file is saved, but only the selected area.

For information about defining selections during a batch run, see the various "Set Selection..." batch plugins.

5.1.16 Select Single Channel

Description: This plugin limits the current selection to one channel instead of both. This plugin has no effect on mono files.

Parameters:

| | |
|------------------|---|
| "Select Channel" | Here you can specify if you want the selection to be only on the left or only on the right channel. |
|------------------|---|

Additional information: The use of this plugin is primarily found where it makes sense to select only one channel in a stereo file. A typical application would be to phase invert one channel of a stereo file (with the "Invert Phase" plugin.)

Before using this plugin, a selection must have been setup using one or more of the "Set Selection..." batch plugins.

5.1.17 Set Insertion Point %

Description: This plugin sets the current selection to an empty selection at a specified position. An empty selection is a selection of zero samples. When the selection is empty, it is also called an **insertion point** since in this case audio material (or silence, see below) can be inserted at this location.

Parameters:

| | |
|-----------|---|
| "Percent" | Set this parameter to the desired position of the insertion point. The position is given in percent relative to the length of the whole file. |
|-----------|---|

Additional information: This plugin is typically used before employing one of the "Insert Silence..." batch plugins. If you must set the location of the insertion point in samples instead of a percentage value, use the "Set Selection Start Sample" plugin instead.

5.1.18 Set Insertion Point Time

Description: This plugin sets the current selection to an empty selection at a specified position. An empty selection is a selection of zero samples. When the selection is empty, it is also called an **insertion point** since in this case audio material (or silence, see below) can be inserted at this location.

Parameters:

| | |
|-------------------------|---|
| "Time" | Set this parameter to the desired position of the insertion point. The position is given in seconds |
| "Time From End Of File" | If this box is checked, the <i>Time</i> parameter is taken as relative to the end of the file. Example: you want to set the insertion point 2 seconds away from the end of the file. To achieve this, set <i>Time</i> to 2 seconds, and check <i>Time From End Of File</i> . |

Additional information: This plugin is typically used before employing one of the "Insert Silence..." batch plugins. If you must set the location of the insertion point in samples instead of a time value, use the "Set Selection Start Sample" plugin instead.

5.1.19 Set Selection

Description: This plugin lets you set a selection in the current audio file.

Parameters:

| | |
|---------|---|
| "Start" | Use this parameter to set the start of the selection in seconds from the file's start. |
| "End" | Here you can set "the other end" of the selection, again in seconds from the start of the file. |

Additional information: "Set Selection" is meant mainly as a quick and simple means to select a portion of the audio material for further processing. It is used best when selecting ranges at the start of the file, since there is no possibility to set selections at the end of the file when the lengths of the batch processed files are all different. For those tasks you should use the following "Set Selection..." batch plugins, which let you set the start and the end of the selection independently and with different methods.

5.1.20 Set Selection End %

Description: This plugin lets you set the end of the selection in percent.

Parameters:

| | |
|-----------|--|
| "Percent" | The position of the desired selection end in percent of the file's length. |
|-----------|--|

Additional information: Use this plugin together with one of the "Set Selection Start..." batch plugins.

5.1.21 Set Selection End Sample

Description: This plugin lets you set the end of the selection in samples.

Parameters:

| | |
|----------------------------|--|
| "Samples" | The position of the desired selection end in samples. |
| "Samples From End Of File" | Check this box if you want the above value to be meant as samples relative from the end of the file. |

Additional information: Use this plugin together with one of the "Set Selection Start..." batch plugins.

5.1.22 Set Selection End Time

Description: This plugin lets you set the end of the selection in seconds.

Parameters:

| | |
|-------------------------|---|
| "Time" | The position of the desired selection end in seconds. |
| "Time From End Of File" | Check this box if you want the above value to be meant as time relative to the end of the file. |

5.1.26 Silence Selection

Description: This plugin replaces the selected range of audio material with silence.

Parameters: None

Additional information: Before using this plugin, you must set a non-empty selection using one or more of the "Set Selection..." batch plugins. You can restrict the silencing to only one channel by additionally using the "Select Single Channel" batch plugin.

5.1.27 Undo

Description: This plugin performs one "Undo" step.

Parameters: None

Additional information: It may seem strange to undo a processing step during a batch processing run, but this plugin allows you to do some very cool things. Use this plugin when you want to make multiple different versions of the files to process. For example, you can process the file with one specific setting of a plugin, "Save A Copy As" of that version into one folder, then undo this step and process the same file with a different setting, afterwards saving it into another folder.

See the section "Tips & Caveats" for more detailed information on the use of this batch plugin.

6. Tips & Caveats

This chapter is dedicated to help you avoid the first troubles you might run into as you get used to the usual proceedings while setting up and managing a batch run.

The following tips and notes are presented in no special order.

6.1 Always use the "Close Audio File" plugin!

As already mentioned in the description of this plugin in the batch plugin reference, it is strongly recommended that you make use of this plugin. If you do not use it, all the processed files will remain open after processing. If you have really plenty of memory assigned to sonicWORX (in the range of 100MB) then you will be able to keep open about 100 files (this also heavily depends on the file length and the number of processing steps already applied). But then, the sense in keeping a number this large of open files is at least questionable.

Also, don't forget to insert one of the "Save..." plugins before closing the file, otherwise all the changes will be discarded. During batch processing there is no dialog asking you to save changes before closing, so you wouldn't even notice that your changes are being discarded.

6.2 Using the various "Set Selection..." batch plugins

Except from the case where you want to always process the whole audio file – in which case you can just leave the selection empty – some of the batch plugins and all of the offline plugins expect a portion of the audio data of the current audio file to be selected, that is, highlighted, before being able to perform their respective processing. Being able to use the "Set Selection..." plugins in the correct manner is therefore a basic requirement when it comes to setting up a batch process.

A non-empty selection always consists of a "selection start" position and a "selection end" position in the audio file. This is the same notion as when working in the wave window of an audio file. There, making a selection is usually carried out by clicking and dragging with the mouse in the waveform display.

In batch processing, the interaction with the user is obviously missing, so there is the need for some other means of defining which part of an audio file to select (if at all necessary). The various "Set Selection..." batch plugins are made for exactly this purpose.

Now, for the possibilities of defining a "position" or "location" in the audio file, one can see several different ways of indicating the desired position. The most natural unit of defining a position in time is the unit of time itself, that is, seconds. But for some applications, it seems more sensible to be able to specify exactly how many samples (the smallest unit in the digital audio domain) the position should be away from some common location, like the start or the end of the file, for example. Yet another method would be to define a location which varies according to the file's length, which inevitably leads to a percentual value here.

Since a non-empty selection always consists of *two* positions, and the various methods of defining a position has rousen to three already (bpm would be a fourth, for that matter) it would have required 3 times 3 = 9 different plugins for making selections, which would have been quite confusing (currently sonicWORX does not support switching between different units of measure within one single plugin). Therefore, setting the first position – the selection start – and the second position – the selection end – has been split up in two separate types of plugins, ones that set the selection's start and the other ones that set the selection's end position.

In summary, we have these two groups of plugins:

Set Selection **Start** %
 Set Selection **Start** Sample
 Set Selection **Start** Time

 Set Selection **End** %
 Set Selection **End** Sample
 Set Selection **End** Time

The "Set Selection" plugin is there just for your convenience, for the probably most frequent case that you want to set a selection in seconds whose positions are given relative from the start of the file.

The same applies to the "Set Insertion Point..." batch plugins. Instead of these you could also use one of the "Set Selection Start..." plugins.

To summarize, and to help you remembering how the "Set Selection..." plugins work, keep the following analogy with the usual click&drag method in mind:

The "**Set Selection Start...**" plugins work like your **first click** into the waveform. The previous selection is "removed" and there is a blinking insertion mark in the waveform. The "**Set Selection End...**" plugins **extend the selection**, like you would do by dragging the mouse or by shift-clicking on the desired selection's other end.

6.3 Specify a folder in the various "Save..." plugins

All the "Save..." and the "Export A Copy As" plugins that have the possibility to save the files into a definable output folder must be provided with one, otherwise the batch run will be stopped. The only exception is the "Save As" plugin, which saves the files in the same folder as the original file if no output folder is given.

6.4 Open a RT DSP window if you are using the "Apply RT DSP Page"

If the "Apply RT DSP Page" is executed while no realtime DSP page is open, the batch run will be stopped.

6.5 Batch plugins cannot be executed manually

The batch plugins share the same areas of the visible user interaction as normal offline plugins. They are selectable from the "Offline" menu, they appear in the plugin list in the offline window, their parameters can be set in the parameter area of the offline window and their name appears in the "Process Offline" button in the Wave window. Nonetheless, in the current version (2.5) the batch plugins cannot be executed manually, that is, by clicking into the "Process Offline" button in the Wave window. This may change in a future version.

6.6 If it is not an emergency situation, always perform a "clean" stop

If stopping the batch run becomes necessary and you intend to continue it, for example because

- you want to reassure yourself of certain settings of offline plugins being correct
- you want to pause the batch run and continue at a later time

then you should always perform a "clean" stop. A clean stop is achieved by just clicking on the "Stop" button in the batch window. A clean stop will process the current file until it has passed all processing steps setup in the offline window, including saving and closing. Also, clicking on "Process All" in the batch window will then start processing with the first file not having the status "Saved", which is exactly the one where you would want the batch run to continue.

If you perform a forced stop by holding down the **Option** key while clicking on "Stop", the current processing will be aborted instantly, leaving the file half-way in the process. If you have stopped because you want to redo the whole thing completely from the start, then it does not matter, since most probably you'll throw away all the processed (and the half processed) files. If you have started the batch run on a copy of the folder made in the Finder, then this is easy to achieve - just throw away the whole folder and make a fresh copy.

6.7 Avoid stopping if using the "Rename" batch plugin

If you are using the "Rename" batch plugin and have activated the counter, then it is not a good idea at all to stop the batch run, since stopping always resets the counter to its initial value. If you stopped the batch run because you intend to start it all over again (perhaps because you noticed that something must still be changed in the batch setup), then it doesn't matter, but if you stop the batch run and continue it later, the counter will restart from its initial value, instead of continuing where it left off.

6.8 Possibilities of interaction during a batch run

While the batch run is in progress, you can still do a number of things to interact with the computer. Specifically, you **can safely**

- move windows around, resize them and scroll their contents
- start playback in any open audio file. If the file is in the process of being closed, playback will be stopped anyway, you won't have to care about this.
- add more files to the batch window. Those files will appear in the list, but they will not be processed in the current batch run.
- open any one of the files in the batch window by double-clicking on it. Beware, however, that if you open a file that is about to be processed by batch processing, processing will start with the state the file is currently in (if you have made any changes to the file after opening it), which may not be what you want.

Nevertheless, you can safely open and close any file which has already been processed to check if it has been processed correctly. If you just want to play back any file in the batch window, remember that you can do so by just **Control-Clicking** on that file.

What you **can not do** during a batch run (that is, the computer won't let you do it):

- Delete files from the batch window
- Change or delete the current plugin from the plugin list in the offline window or add a new plugin
- Change any parameters in the parameter area of the offline window. This avoids the possibility of accidentally changing some parameter settings.

Things you can do but which are **not recommended**:

- Close the batch window or the offline window or the currently processing audio window. If you do this, the batch run will be stopped after a safety dialog box has reassured that this is what you want.

- Click in the "Process Offline" button in the audio window. Clicking this button while it is lit (that is, while an offline or batch plugin is being executed) stops the current plugin and the whole batch run. This is the same as clicking on the "Stop" button in the batch window while holding the **Option** key down.
- Opening a file which is still to be processed by the batch run and messing around with it (that is, modifying it).

In general, you can switch sonicWORX to the background and work with other applications while the batch run carries on. Nevertheless, keep in mind that this rises the possibility of a system error caused by any of the other applications you might use. In case of a system error the currently processing file most probably will not be processed completely, or even worse, if you have multi-save setups (see the examples chapter for some explanations about setting this up) there may be some versions of the file which have been saved successfully and some which have not.

Since the contents of the batch window – this includes the state of a file displayed in the "Status" column – is saved to disk every time a "Save..." batch plugin is executed, in most cases you can see which one of the files have been processed completely and which have not, even if you have to reboot the computer immediately in occurrence of a system error.

These sort of precautions will most probably (and hopefully) not apply any more for users of Mac OS X, since the memory protection mechanism of OS X would not allow other applications to tear down the whole system. The benefits of OS X will be made available in a future version of sonicWORX which then will run natively on OS X

6.9 Leaving the computer unattended while processing large files

If you are processing large files with a greater number of processing steps, it may take a while for the batch run to reach the various "Save..." or "Export..." or "Apply RT DSP Page" plugins the first time, so if you start the batch run and leave the computer unattended immediately thereafter, probably being away for a couple of hours, you will be disappointed to find the batch run aborted already after the first file if you forgot to specify output folders or to open a realtime DSP page (in case of using the "Apply RT DSP Page" plugin). In a future version of sonicWORX these necessary preconditions will all be checked in the moment you start the batch run, so that situations like this can be avoided. For the time being, you'll have to make sure that everything is set up correctly yourself.

A simple way of checking if everything is set up as it should be is dropping a couple of short files (in the range of 10 seconds or so) into a separate batch window and make a batch test run.

6.10 How do I use the "Undo" batch plugin?

The "Undo" plugin does what one would expect when selecting "Undo" from the "Edit" menu: it undoes the last processing or editing step that you applied to an audio file. Using it during a batch run usually makes sense only if you want to automatically generate multiple different versions of each file. For example, imagine that you want to apply denoising to 50 audio files. Instead of manually checking how strong the denoising level should be set for each file, you could set up a batch process which automatically generates 5 different versions of each of the 50 files, each version with a different level of denoising applied. When the batch run has completely finished, you can browse through the generated files and for each file select the version that is most adequate.

When setting up this batch process, you would of course have to insert the denoising offline plugin 5 times, each with a different setting. Since all the plugins in the plugin list are applied one after the other on the current audio file, it would result in a file denoised 5 times in a row, which surely is not what you want. So, analogous to what you would do when doing such a task manually, you add a denoising plugin to the plugin list, and then, after having it saved with the appropriate "Save..." plugin (use the "Save A Copy As" plugin here), revert to the un-denoised version with one "Undo" plugin, to be ready to apply denoising a second time with different settings.

Of course there are situations where you would have to go back for more than one step (see the example number 4 for such a configuration). In this case, use the "Undo" plugin the corresponding number of times in a row, until you have gone back to the processing step you want to redo with different settings.

Important: every "normal" offline plugin applied to the current audio file generates a processing step which can (or needs to) be undone with one "Undo" plugin, but this does not apply to every batch plugin! For example, the "Save..." batch plugins need not to be undone, neither do the "Set Selection..." plugins.

To remember easily which batch plugin needs to be undone with one "Undo" plugin in case of necessity, just think of which plugin effectively **changes the audio data** in some way. The "Save...", "Set Selection...", "Rename...", "Delete All Markers..." plugins all do not touch the audio material (well, except when saving a file in a different format, but that's more of a question of changing formats than audio data) so they need not to be undone with an "Undo" plugin.

6.11 Using the batch window as a file browser

You can quickly play back and also open files directly from the batch window by Control-Clicking for instant playback or Double-Click to open the file(s). This capability makes the Batch window a useful place for just collecting files together to quickly browse through them. Imagine the situation depicted in the previous section. After the batch run has finished, you'll want to quickly compare all the generated files in order

to discard those where the applied denoising does not sound well. In this case, you would just drop the whole folder with the output files into the batch window, so you can quickly play them back.

If you saved every version to a separate output folder, then dropping those folders into the batch window will result in all the five corresponding versions of one file being scattered throughout the batch window, which is not very convenient. The files are displayed first in the order in which they are dropped onto the batch window, then all of the files of one folder are grouped together. Since currently you cannot change the ordering of the files like in the Finder, you should choose another way of organizing your output files. Here is one possible way of achieving this, which even has one advantage over the first method:

Save all the files into one single output folder. If you had 50 files in your batch window, saving five versions of them will result in 250 files being in the output folder after the batch run has finished. Now comes the trick: before saving the files in the output folder, use the "Rename" plugin to **append** a string to the file name. Use a meaningful string for each version, for example, if you are using the "Hybrid Neural Denoise" offline plugin you could use the value of its *Noise Floor* parameter as string. Let's say that the five different settings you want to use have a parameter value of -30, -40, -50, -60 and -70, respectively. So you would enter those strings into the corresponding "Rename" plugins, into the *Insert String* text parameter, setting the *Insert Position* parameter to maximum value (so that the string gets appended to the end of the file's name). If you want to keep the ".AIF" or similar extension you could enter a period into the *Search String* parameter instead, which will insert the *Insert String* right before the period of the extension.

After processing has finished, you should have all 250 files in your output folder, but all the five versions of the same file will be close to each other, if you have set the Finder's sorting column to "Name". If you now drop the output folder into the batch window, you will have the files in the desired order, which of course helps a lot when comparing the different versions of the files to each other.

Now you can instantly compare files and delete those which are not needed any more by holding down the **Command** and **Option** keys while pressing the backspace key on the keyboard, which will move those files to the trash.

7. Examples of Batch Setups

In this chapter you will find some examples of different complexity about how to configure a batch process so that it does what you want it to do.

When reading the examples in this section, you should not be looking for exact solutions to your specific demands, but rather examine the techniques employed to achieve the desired results.

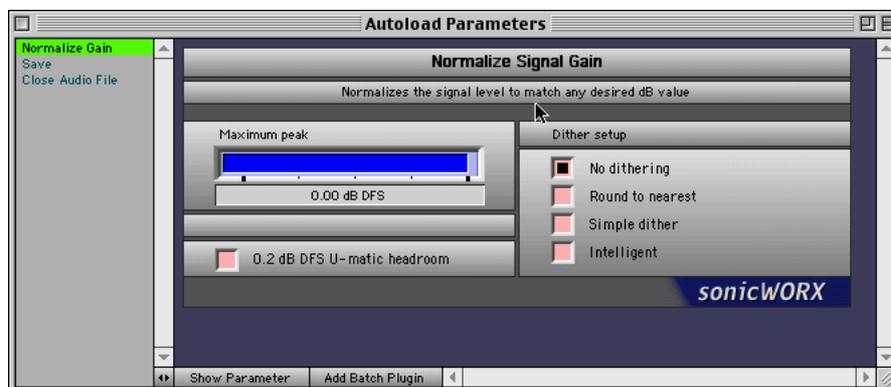
One may argue that, for a "serious" mastering job, applying the same VST plugin setting to all of the tracks would be an offense to the ear. This is surely true, but that is not what batch processing in sonicWORX is about. And by the way, in the case of such a mastering session, the time needed to set up the realtime DSP page for the perfect sound for just one track is usually far higher than the process of "applying to file" the finished setup, which is naturally equal or less the duration of the track itself (speaking of "real time" here), so that this short waiting time doesn't weigh much and can even be very well used to get your ears a break.

If taking a mastering job seriously, one hour of experimenting and tweaking settings for one five-minute track is nothing but good average. If you believe being able to set up your DSP page in five minutes for that track, then it is perfectly o.k. applying this same setting to *all* of your tracks, since probably you just wouldn't mind ;-).

7.1 Example 1 (simple)

Task: "Process and save 20 files."

The corresponding offline plugin setup would look like this:

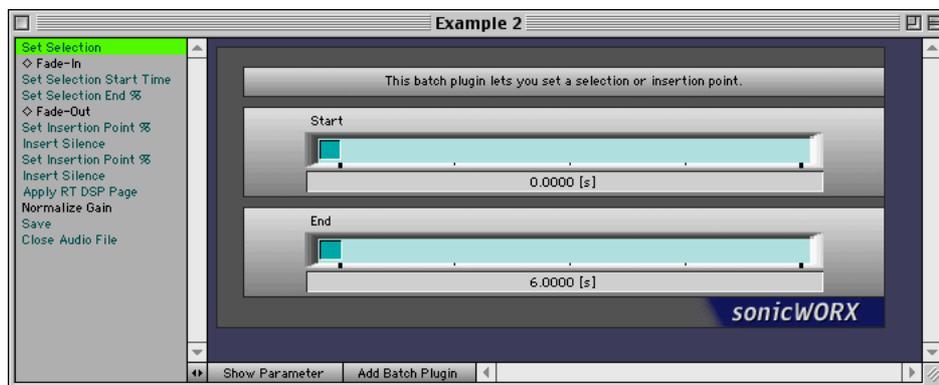


Parameter settings: the only plugin that provides parameters which can be set is the "Normalize Gain" plugin, so there is nothing special to observe here.

7.2 Example 2 (moderate)

Task: "Fade-in at beginning (6 seconds), fade-out at end (15 seconds), then insert 0.5 seconds of silence at both ends, process with a realtime DSP page, normalize and save 20 files."

The corresponding offline plugin setup would look like this:



Parameter settings: of course, you should set the parameters of the normal offline plugins ("Fade-In", "Fade-Out", "Normalize Gain") to the appropriate values.

As you can see in the screenshot, we use the "Set Selection" batch plugin to select the fade-in range at the start of the file, since it is simply more convenient than using a "Set Selection Start..." and "Set Selection End..." combination. For the "Fade-Out" plugin instead we want the selection to be at the end of the file, so we use "Set Selection Start Time" with a *Time* value of 15 seconds and the *Time From End Of File* box checked. This sets the selection start to be 15 seconds before the end of the file. By then using "Set Selection End %", which has its *Percent* parameter set to "100%", we set the selection's end to be at the end of the file. In this way we have selected the last 15 seconds of the file, which will then be processed by the "Fade-Out" plugin.

The same reasoning applies when setting the insertion point for the "Insert Silence" plugin. The difference here is just that we don't need a selection (which consists of two positions in the file) but instead an insertion point (which consist of exactly one position in the file) so we just need to use the "Set Insertion Point %" plugin. The *Percent* parameter of the first of the two plugins is set to "0 %", to indicate that we want to go to the start of the file, the second plugin's value is set to "100 %", to indicate the end of the file.

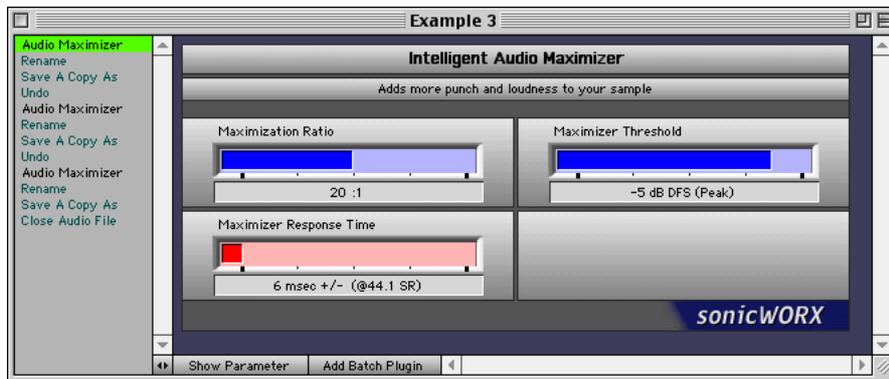
The only parameter of the "Insert Silence" plugin is then of course set to the 0.5 seconds of silence we want to insert.

For the remaining plugins there is nothing special to observe. As always, don't forget to have a realtime DSP page open when using the "Apply RT DSP page" plugin.

7.3 Example 3 (more complex)

Task: "Maximize all the files with three different settings, saving each version with an additional remark in its file name."

The corresponding offline plugin setup would look like this:



Parameter settings: this setup is basically a very simple task repeated three times in a row. The parameter of the "Audio Maximizer" should be set as needed, using different settings for each of the three instances of the plugin.

The most important thing to observe here is the correct use of the "Rename" plugin. Let's say that you would like to try out three different maximizer settings which roughly correspond to a "soft", a "loud", and an "ultra" setting. Then you would set the *Insert String* parameter of the three "Rename" plugins to " soft", " loud" and " ultra", respectively (note the blank character at the beginning). The *Insert String* should be inserted at the end of the file name. If you process files with names like "Track 1", "Track 2" etc. this would result in files named "Track 1 soft", "Track 1 loud", "Track 1 ultra", "Track 2 soft", "Track 2 loud", "Track 2 ultra" and so on. If you have files without a type extension in their names (".aif", ".WAV" or the like) then you would achieve this by just setting the *Insert Position* parameter to its maximum value. Otherwise, if you have only file names with type extension, you would instead set the *Search String* parameter to a period, which would insert the *Insert String* right before the period of the extension. If only some of the files have a type extension, then you probably would be better off inserting the *Insert String* at the beginning of the file name (set the *Insert Position* parameter to zero), but in this way you would lose the ability to let the Finder display them in alphabetical order while having the different versions still grouped together. In this case you would probably use the "modification date" sorting option in the Finder, which usually gives the desired result.

The "Undo" plugins are needed since you'd surely want the second and third "Audio Maximizer" plugin to be applied on the original file instead of on the version that has already been processed by the previous "Audio Maximizer" in the plugin list.

As usual, don't forget to set the "Output Folder" in the various "Save A Copy As" plugins.

7.4 Example 4 (for experts only ;-)

Task: "Make three different versions of my 96kHz/24bit rough tracks: for each version there is a snapshot already set up in the realtime DSP page. Fade-out at end, insert 0.5s silence at both ends, then apply RT-DSP page, normalize, sample rate convert to 44.1 kHz and save as 16bit files. Do this once for each of the three snapshots, and save each version into a separate folder."

The corresponding offline plugin setup would look like in the following image.

Parameter settings: apart from looking frighteningly complex, this example provides nothing extraordinarily new in terms of "tricky setups". The only difference to the previous example is that here we need three "Undo" plugins in a row for getting back to the processing step we want to have in different versions. As already mentioned, we want to have three versions, each with a different RT DSP setup. Since of course we want to have the DSP processing done in the format which yields the highest quality, we do the DSP processing first and the sample rate conversion afterwards. Since we want to vary the DSP setup though, we need to undo not only the previous DSP processing step before applying it again for the second and third version, but also the steps that were made after the DSP page has been applied, namely the "Normalize Gain" and "Sample Rate Conversion" steps. This requires three "Undo" steps, the first undoes the "Sample Rate Conversion", the second undoes the "Normalize Gain" step and finally the third undoes the "Apply RT DSP Page" step. Now we can apply the DSP page again, this time of course selecting another snapshot for the DSP page.

