Made in Sweden

ReCycle!

THE ULTIMATE TOOL FOR SAMPLED GROOVES

Version 2.1

Menu and Dialog Reference

Change the tempo of a groove without altering its pitch – and vice versa! → Change the feel of your grooves, or quantize them! → Create endless variations and fills out of a single loop! → Total Loop Control

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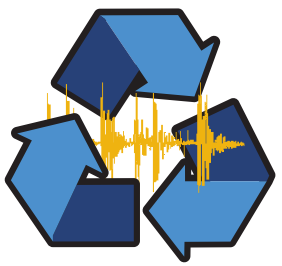
Operation Manual by Synkron:
Ludvig Carlson, Anders Nordmark and Roger Wiklander.



ReCycle!

THE ULTIMATE TOOL FOR SAMPLED GROOVES

1 The ReCycle Menu

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About ReCycle...

Selecting this brings up a window showing you the version of the program and a list of the fine people involved in creating it.

To close the About ReCycle window, click anywhere in it.

Preferences

The Preferences dialog is used to make audio settings, to set some general options for how the program operates, and to customize the look of the waveform display.

Preferences - Audio

Selecting an Audio Driver

All available drivers are listed on the Audio Card Driver pop-up menu.

- **If you are using audio hardware for which there is a specific ASIO driver, you should select this.**
  With an ASIO driver written specifically for the audio hardware, ReCycle 2.1 can communicate more or less directly with the audio hardware.
- **If you plan to use the internal audio outputs on your computer, please select "Built-In Audio Controller".**
  This is named "CoreAudio" driver under certain versions of OS X.
- **If you have some additional audio hardware (such as USB-speakers) installed, please select "SM Device Name", where "Device Name" is the name of your audio hardware.**
- **If you have an audio card with multiple outputs, you can select which output pair you wish ReCycle to use by clicking the "Channels..." button.**
  This item will not be selectable if you use a card with only a regular stereo output.

Setting the Buffer Size

You can adjust the latency value by using the Buffer Size slider. The highest and lowest possible values depend on the driver.

Preferences - General

- **When "Always Move Left Locator to First Slice Point" is activated, ReCycle will automatically place the Left Locator on the first slice point when you Open or Receive a sample.**
  If this is not activated when you Open or Receive a sample with no loop setting, or the loop start is just at the beginning of the sample, a dialog appears suggesting you should let the program move the Left Locator to the first slice point. This is to avoid very short slices at the beginning of the sample, It is recommended that you do this, unless you have a good reason not to.
- **If "Set Bars to 1 in New Documents" is ticked, any new audio file will open up with Preview mode activated, and the Tempo calculated to the length being one bar.**
  Note that this will lead to files playing back at the wrong tempo if the loop isn't exactly one bar! You can always change the number of bars later of course, and the tempo will be recalculated according to the bars setting.
- **If "Export as one Sample will Crop to Loop" is activated, the end of a file will be cropped exactly at the Right Locator position, omitting any stretch tail that may be present beyond this point.**
- **If "Use large Toolbar icons" is checked, the size of the Toolbar icons will become slightly larger.**
- **If "Show Status Bar" is unchecked the Status Bar will be hidden.**
- **The "Units on Horizontal Ruler" allows you to set whether Time (in seconds) or number of Samples should be displayed on the horizontal ruler.**

Preferences - Waveform

You can customize the look of the Waveform window by using the settings at the bottom of the Preferences dialog:

The "View stereo files as sum of L+R" Option

If this item is ticked, the left and right channels of stereo files will be summed to one channel, instead of being stacked on top of each other. Note that this is a display option only, the actual audio material is not affected.

Waveform Color

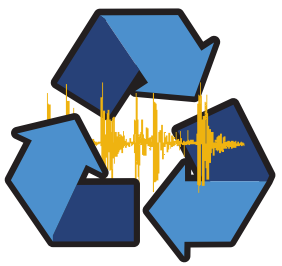
Click this button to select a new color for the waveform. This brings up a standard OS X color dialog. A color field shows you the current color selection.

Waveform Look

Use this pop-up menu to select one of three different waveform “looks”; Plain, 3D or Shaded. Plain displays the waveform with normal graphics, 3D adds a depth effect to the graphics and Shaded adds a progressive shade to the lower part of the waveform.

Contrast Slider

This slider sets the amount of contrast between the background display and the waveform. For maximum contrast, position the slider all the way to the right. Moving the slider to the left progressively adds more of the chosen waveform color to the background display.



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2 → The File Menu

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Open...

This dialog is used to load audio files from the hard disk. The dialog is a standard file dialog with some additions.

File Info

When you select a file in the list, information about file type, length, etc is shown in the lower part of the Open dialog.

For all recognized audio file formats, the following information is displayed:

- File Type (see About The Different File Formats).
- Number of channels.
- File Length.
- Bit depth.
- Sample Frequency.
- File Size, in Bytes (For REX2 files the data compression ratio is displayed in parentheses. For example, 2.4:1 means that the file was 2.4 times larger before it was compressed).

If the file is a ReCycle file, the following additional information is displayed:

- Tempo.
- Time signature.
- Length in bars and beats.
- Usage, which tells you the size of the loop (i.e the audio between the locators) in relation to the total file size in percent.
- The number of slices in the file (only available if a REX2 file is selected).
- Export Size tells you the size of the file if exported (only available if a REX2 file is selected).

Play and Stop buttons

When you click the Play button, the selected file will be played back. If you wish to stop playback before the file ends, click Stop.

Auto Play

If this option is on (ticked), playback will start automatically as soon as a new file is selected from the dialog. If a new file is selected during playback, the previous selection will stop and playback of the new selection will start directly.

You will not be able to play a file under the following conditions:

- If the file is in a format ReCycle doesn't support.
- If there isn't enough memory (RAM) left to load the sample.
- If the sample is longer than 30 seconds it won't play automatically (but you can audition it with the Play button).

About The Different File Formats

ReCycle can load mono or stereo files that meet the following criteria:

- The bit depth can be 8, 16 or 24 bits.
- Sample rates between 11.025 kHz to 1.0 MHz are supported.
- The file is not longer than 5 minutes (regardless of sample rate and mono/stereo status).

The table below shows the supported file formats.

Name	Extension	Comment
ReCycle	RX2/RCY/REX	REX2 is the native file format created when you save in ReCycle. RCY/REX are ReCycle files that were created with previous versions of ReCycle.
Wave	WAV	The standard Microsoft file format for audio. May be in formats other than 16-bits.
Audio IFF (AIFF)	AIF	Audio Interchange File Format; Apple's standard audio file format. May be in formats other than 16-bits.

About Split Stereo Files

ReCycle can load Split stereo files (commonly used in Logic and Pro Tools). Split stereo files have the extension "L" or "R". If you load a file with one of these extensions, ReCycle will automatically scan for a opposite match and load this at the same time. For the match to work, the split files have to have the same name (apart from the extension), size, bit rate and be located in the same folder.

Close

This closes the active document. If there are unsaved changes, you will get the option to save the changes or to cancel the operation.

Save

This saves any changes made to the file since you last saved. If the file hasn't been saved before, the Save dialog comes up asking you to specify a name and location for the file. Files are saved as REX2 files, the native ReCycle file format.

Save As...

This dialog box allows you to save as a REX2 file to disk and specify the name and location for the file.

Save All

Save All saves all open documents. For new documents, that have not previously been saved as REX2 files, the Save As dialog is used. If Cancel is selected the entire Save All operation is cancelled. Save All is disabled on the menu if no open documents need to be saved.

Export Sound

The Export Sound dialog is used if you want to save your files in other formats for which the program saves audio files on your computer's hard disk.

File Formats

The File Format pop-up is where you select the file format you wish to export the file as. The following file formats are supported:

Name	Ext.	Comment
Standard MIDI File	MID	Allows you to export a Standard MIDI file. This can be used if you *only* want to create a MIDI File (for example when using ReCycle to create "groove maps").
Wave	WAV	The standard Microsoft file format for audio. Exports one or several files, with one slice in each file, depending on the "Export as One Sample" setting on the Process menu.
Audio IFF (AIFF)	AIF	Audio Interchange File Format; Apple's standard audio file format. Exports one or several files, with one slice in each file, depending on the "Export as One Sample" setting on the Process menu.
Mixman Track File	TRK	Mixman TRK files are the building blocks in the Mixman Studio and Mixman Studio Pro applications. To facilitate tempo-matching, the Mixman TRK files contain "slices" internally (somewhat like ReCycle files). A single file is created. If the exported document is based on a stereo file, an alert box will appear informing you that the file will be mixed to mono, since Mixman files are always mono.
SampleCell Instrument File	INS	Digidesign's SampleCell is a PCI based sampler card/software editor for both the Mac OS and Windows platforms. ReCycle exports an Instrument file plus one or several sound files, with one slice in each file, depending on the "Export as One Sample" setting on the Process menu.
SoundFonts 2 Banks	SF2	SoundFont is a file format for storing wavetable synthesized sounds. Effectively, this turns an ordinary sound card into a sampler. Creates a single SF2 file when exported, with the option to export a MIDI file with the same name.
Akai S5000/S6000 Program Files	AKP	Exports a program file together with one or several audio files, with one slice in each file, depending on the "Export as One Sample" setting on the Process menu.

Before exporting a file in one of the supported formats, the Export Settings dialog is shown. This contains the following options:

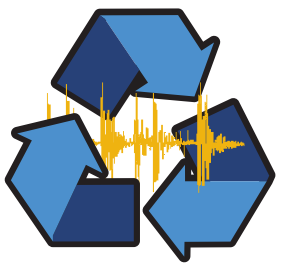
- **Two pop-up menus allows you to change the sample rate and/or bit depth when Exporting.**
- **An "Export MIDI File with Same Name" checkbox.**
  When checked, a MIDI file with the specified name will be generated together with the exported file.

File Quick Selection List

The most recently loaded files are listed on the File menu. Selecting one opens it.

Quit

This simply quits the program. If you have any unsaved changes you will be asked whether yo want to save them before quitting.



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3 → The Edit Menu

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Undo/Redo

Virtually all actions in ReCycle 2.0 can be undone. You can undo up to 10 actions.

➔ **To undo the latest action, select “Undo” from the Edit menu or press -[Z].**
The action to be undone is indicated next to the Undo command on the Edit menu.

➔ **To redo the last undone action (“undo the undo operation”), select “Redo” from the Edit menu or press [Command]/[Ctrl]-[Y].**
Similarly, the action to be redone is shown on the Edit menu.

Copy Loop

You can use “Copy Loop” to copy the entire loop (i.e. all waveform data between the left and right locators) to the Clipboard. You can also use the key command -[C] for this item.

Paste as New Document

If the Clipboard contains data, this can be pasted into a new (automatically created) document window by using the “Paste as New Document” menu item. You can also use the key command -[V] for this item.

Delete

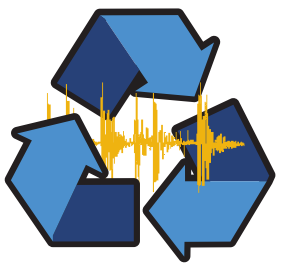
“Delete” will delete all selected slice markers. You can also use the [Delete] button on your computer keyboard for this.

Select All

The “Select All” menu item will select all slice markers in the active document. You can also use the key command -[A] for this.

Invert Selection

If you have a selection of markers, you can invert the selection by using “Invert Selection”. After this operation, the markers that were previously selected are now deselected, and vice versa. This is mainly useful together with Silence Selected, to extract individual sounds from a loop.



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4 → The View Menu

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The Effects

The Envelope, Equalizer and Transient Shaper items open the effect panels for the respective effect. These menu items do not activate or deactivate the effects, they only bring the effect panels into view.

ReCycle features three effect processors, Envelope, Equalizer, and Transient Shaper, that can be used to further manipulate audio loops.

➜ **All effects are applied globally, i.e. they will affect all slices equally in a loop.**

➜ **To be able to apply the effects, Preview mode must be activated.**
To activate Preview mode for an audio file (as opposed to a ReCycle file) you must first have set up the left and right locators, specified the length and time signature of the loop and created a sufficient number of slices (see the previous chapter). You could also load ReCycle files for further processing, in which case these settings have already been made and you can apply effects in Preview mode directly.

➜ **When using effects, the principle "what you hear is what you get" applies to the end result when saving the file.**

! **For a full description of each effect see Effect Parameters.**

Open the Effect Panels

The three Effect buttons (from left to right); Envelope, Transient Shaper and Equalizer.

The three effects each have their own panel, containing the parameters. By clicking on one of the effect buttons located to the left of the transport controls, the corresponding panel is shown below the toolbar. You can also open the effect panels from the View menu.

➜ **The left to right order of the buttons also reflects the internal signal path of the effects.**
If all are activated, Envelope is always the first effect in the signal path, the Transient Shaper is the second, and Equalizer is the last.

Activating Effects

Effects can be active regardless of whether the panel is visible or not. There are two ways you can activate effects:

➜ **By clicking on the Effect On/Off button for an open panel.**
When an effect is on (activated), the On/Off button is lit up, and a blue dot is shown in the effect button for the corresponding effect.

➜ **By holding down [Option] (Mac) / [Alt] (Win) and clicking on an effect button you can toggle the effect on and off.**
The green dot in the corresponding Effect button is greyed out if the effect is deactivated.

About the Presets

For each Effect there are a number of preset settings available.

➜ **To select a Preset, click on the Preset button beside the Effect On/Off button.**
A pop-up menu appears with the available Presets listed.
The Effect Presets button.

! **It is not possible to store user presets.**

Effect Parameters

Envelope

To open the Envelope processor, click on the Envelope button, or select Envelope from the View menu.

The Envelope Attack and Decay parameters govern how the volume of a slice should change over time, from the time it is triggered (the slice note starts) until the slice note ends. This can be used to make a loop more distinct (by having a snappy attack and a short decay time) or more spaced-out (by raising the attack time).

The Envelope panel also features a third parameter; “Stretch”, which is described separately below.

➜ **The Attack parameter determines the attack length (in milliseconds) for each slice.**
The higher the setting, the slower the attack. Parameter range is 0 - 430 ms.

➜ **The Decay parameter controls the length of the end portion (tail) of each slice.**
The more the knob is turned anti-clockwise, the shorter the decay. Range is 27ms - Infinite (=full decay).

This feature is used when you know you might want to lower the tempo of the loop in your sequencer.

How Stretch works

When you slice up a loop and play it back from your sequencer, each sample will play in succession. At the original tempo, one slice will end exactly where another starts.

As you understand, when you then lower the tempo, there will be small gaps between the slices, which disrupts the flow of the audio.

Stretch is used to add an extra tail of audio to each slice, to lengthen it. This is derived from the natural decay of the sound. This extra tail of sound then fills out the gap between the slices when the tempo is lowered.

! **Please note that the attack of the sound is not affected in any way.**

The Amount of Stretch

The Stretch knob is used to set the amount of stretch as a percentage value.

The percentage values tell you how much longer the entire sample will be after stretching. If you select the largest value (100%), for example, the slice will become twice its original length.

➜ **To decide how much stretch you need, lower the Preview tempo by the same amount as you intend to use, and adjust the Stretch parameter as necessary.**
If there is a discernible gap of silence between slices you should raise the Stretch setting.

! **Note that Stretch is not Time Stretch! The Stretch feature doesn't lengthen the whole slice, it only adds a portion of sound to the end of it.**

Stretch and the old ReCycle Formats

You should be aware of the fact that REX (as opposed to REX2) files can contain certain settings that are irreversible. For example, if stretch was applied when the file was saved, the stretching is part of the actual REX file and cannot be removed. It is possible, however, to apply more stretch, which may or may not be what you want.

➜ **For REX files it is therefore advisable to try lowering the tempo in Preview mode first, to see if you actually need to apply Stretch.**
REX2 files however, only contains the actual audio file and the slices, the rest (effects, stretch setting etc.) is added when the file is loaded and can be changed at any time.

Transient Shaper

The Transient Shaper is a type of attack/release envelope control, which produces a result that could be likened to compression. Compressors level out the audio, by making loud sounds softer and vice versa. The result is that the levels become more even and individual sounds can get more power and "punch".

- "Normal" compressors are triggered by peaks and volume changes in the actual audio. The Transient Shaper is instead triggered by the individual *slices* in the loop.

Regardless of method, if you have ever used a compressor, you will find that the Transient Shaper will affect the sound in a similar way. It is, however, important to be aware of this difference, as the Transient Shaper won't work as intended unless the file contains slices!

To compensate for the volume loss that can be caused by this effect, the Transient Shaper has automatic gain compensation, that raises the overall level by a suitable amount. The parameters are as follows:

Parameter	Description
Threshold	This is the threshold level above which the effect sets in. Signals with levels above the threshold will be affected, signals below it will not. In practice, this means that the lower the Threshold setting, the more the signal will be affected by the Transient Shaper. The range is -6 to -40 dB.
Amount	This lets you specify the amount of gain reduction applied to the signals above the set threshold. The range is 0 to 99.
Attack	This governs how quickly the envelope will apply its effect when signals rise above the set threshold. If you raise this value, the response will be slower, allowing more of the signal to pass through unaffected. Typically, this is used for preserving the attacks of the sounds. The range is 0 to 91 ms.
Release	When the signal level drops below the set threshold, this determines how long it takes before the Transient Shaper lets the sound through unaffected. Set this to short values for intense, "pumping" compressor effects, or to longer values for a smoother change of the dynamics. The range is 13 ms to 1.4 s.
Gain meter	This shows the amount of gain reduction or increase (in dB), caused by the combined compression and gain compensation.

Equalizer

The Equalizer allows you to cut or boost selected frequencies to shape the overall sound quality. To open the Equalizer, click on the Equalizer button or select it on the View menu. The parameters are as follows:

Parameter	Description
Lo Cut	A highpass filter allowing you to set the lower limit of the overall frequency range. You can progressively cut frequencies from 15 Hz up to 12 kHz.
Low Frequency	The center frequency for the low-end parametric equalization. Around this frequency, the sound will be boosted or cut according to the Low Gain setting. The available frequency range is 20 Hz to 3 kHz.
Low Gain	Governs the amount of boost or cut around the set frequency. The range is ± 18dB.
Low Q	Determines the width of the frequency band around the center frequency to be affected. The narrower the frequency band, the more drastic effect of the boost or cut. Range is 0.5 to 10.
High Frequency	The center frequency for the high-end parametric equalization. Around this frequency, the sound will be boosted or cut according to the High Gain setting. The available frequency range is 1.5 kHz to 16 kHz.
High Gain	Governs the amount of boost or cut around the set frequency. The range is ± 18dB.
High Q	Determines the width of the frequency band around the center frequency to be affected. The narrower the frequency band, the more drastic effect of the boost or cut. Range is 0.5 to 10.
Hi Cut	A lowpass filter allowing you to set the upper limit of the overall frequency range. You can progressively cut frequencies from 20 kHz down to 100 Hz.

Magnify to Fit/Magnify to fit Loop

If you select Magnify to Fit, the display will zoom out so that the entire sample fits the window. If Magnify to Fit Loop is selected, the display will zoom in (or out) so that the area between the left and right locators will fit the window.

Jump to Cursor

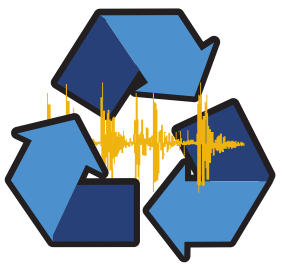
If this is selected, the window will scroll to the current play position, maintaining the current magnification factor.

Show Grid

You must have set a loop length for this item to be available. When enabled, a grid showing Bars/Beats/16th notes is shown in the waveform display.

Scroll during Playback

When you play back, the current position is indicated by a dotted line travelling across the waveform. If the option "Scroll during Playback" is checked on the View menu, the current position will always be displayed in the waveform display. This option can also be toggled on or off by pressing [F] on your computer keyboard.



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5 → The Process Menu

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Export as One Sample

Deactivated

When Export As One Sample is turned *off*, the audio gets sliced into individual samples when exported, and the MIDI files created will contain one note for each of those slices.

! This is the preferred mode if you want to use your MIDI sequencer to edit the loop, change its tempo or use the MIDI file as a groove.

Activated

When Export As One Sample is turned *on*, the program will save/export the part that stretches from the Left Locator to the Right as one sample. Also, in this mode, the MIDI File will only consist of one event, with the length set using the Bars and Beats settings.

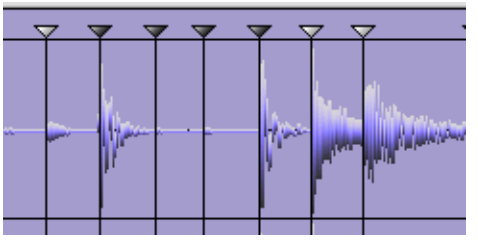
When should Export as One Sample be Activated?

One obvious application of exporting as one sample (as opposed to separate slices) is when you simply want to change the properties (like pitch and/or tempo) of an audio file without otherwise changing it. Say you have an audio file (Wave, Aif etc.) that you wish to use in a song. The problem is that the tempo and/or the pitch of the file is wrong for the song, and you wish to fix this. The solution is to open the file in ReCycle, then slice it up and set the length of the loop using the normal techniques. Enter Preview mode, set the new tempo and/or pitch, and lastly export the file (with Export as one Sample activated) in it's original format but with a new tempo and/or pitch etc.

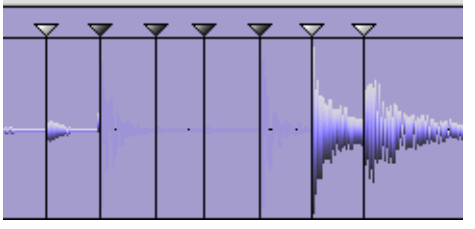
Export as One Sample cam also be used in conjunction with Silence Selected to separate sounds from a loop.

Silence Selected

When this function is activated, the slices that have *selected markers* will be silenced when exported or saved. Preview mode can be used to audition this function.



When Silence Selected is turned on, the slices which have selected markers...



...will be replaced by silence.

This feature is probably best used when Export As One Sample is turned *on*, to silence individual sounds in a longer sample. It can also be used to simply skip unwanted sounds, when slicing.

But, Silence Selected works even if Export As One Sample is turned *off*. In this case, the selected slices will simply be skipped when creating MIDI Files. This will then create a "gap" in the MIDI File.

Normalize

Normalize will change the gain to ensure maximum level.

➜ **When Normalize is selected, a dialog box appears asking if you want to Normalize the whole file or each slice.**
If you select the latter, and the selected file is a rhythmic loop, the normalizing will disrupt the inherent dynamics of the loop, since the gain of each slice will be changed to more or less equal level.
Therefore, normalizing the whole file is probably what you would normally select.

➜ **Normalizing each slice can be used when you use ReCycle to process individual sounds that don't belong to a loop.**

! **Normalize can't do miracles. If your recording contains unwanted noise, normalizing will increase the noise level together with the other audio material.**

Convert to Mono

This item will convert stereo files to mono. It is only selectable for stereo files.

➜ **The dialog lets you decide which channel(s) you wish to use as the basis for the converted file.**
The options are Left, Right or a Mix of both Left and Right channels.

Convert Sample Format

This item allows you to convert the sample rate and/or the bit depth of a file. Lowering the sample rate will make files smaller, but it will also lower the fidelity of the recording (less high frequency material will be present).

On the other hand, increasing the sample rate will not raise the fidelity of the sample in any way. It is therefore not recommended to convert from a low rate to a higher one, unless it is required by the application.

The same applies to bit depth; converting from 24 to 16 will reduce the size of the file (at the expense of slightly lower fidelity) and converting a sample's bit rate from 16 to 24 bits will not increase the fidelity of the original sample.

Selecting this menu item brings up a dialog box. You select the format you wish to convert to using the respective pop-up menus.

Crop Loop

➜ **Crop Loop allows you to trim files, by removing all audio data outside the left and right locators.**
If you have set up a perfect loop with the locators, and the file contains audio outside this locator range you can use Crop Loop to remove this superfluous data.

Remove DC

This function will remove any DC offset in the audio. DC offset is when there is too large a DC (direct current) component in the signal, sometimes visible as the signal not being visually centered around the "zero level axis". DC offset can introduce clicks and it also affects zero crossing detection and certain processing functions such as Re-Analyze and Normalize.

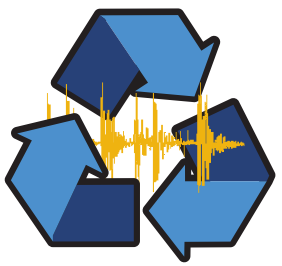
Re-Analyze

Re-Analyze re-runs the slice-detection algorithm on the waveform data. You may have deleted slices that were detected when the file was first analyzed. This command will "re-discover" those slices.

➜ **All slices discovered by Re-Analyze that lies on a position in the file not already occupied by a slice will be added.**
Note that these may or may not be visible, as this depends on the Sensitivity setting!

Add Slices at Grid

This item is only available if "Show Grid" is activated on the View menu. This feature automatically adds a new slice at each 16th note position.



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6 → The Windows Menu

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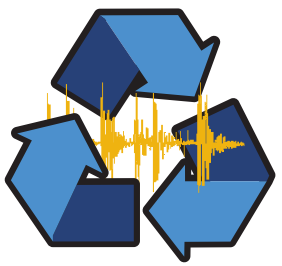
Document List

The Document List shows all currently open ReCycle documents. Selecting one will make it the active document.



ReCycle!

THE ULTIMATE TOOL FOR SAMPLED GROOVES

7 → The Contacts Menu

propellerhead SOFTWARE

Go to the Propellerhead Homepage...

This launches the Internet browser you have specified as your preferred browser for your computer. The browser then takes you to the Propellerhead web site. Note that you need an active Internet account for this to work.

Download Drum Loops

This takes you directly to a page on the Propellerhead site that contains audio loops in either the Wave or Aif format that are free to download.

ReCycle Tech Info and Support

This menu item brings you directly to the ReCycle Support pages on the Propellerhead web site. Use this option if you are having trouble with ReCycle and need help!

Order ReCycle Now

This takes you to the “Prop Shop” where you can place orders for all cool Propellerhead products.

Register ReCycle Now

This is where you register your copy of ReCycle. Registering means that you get access to product updates (when available), tech support and other goodies.