ReCycle!

THE ULTIMATE TOOL FOR SAMPLED GROOVES

Operation Manual

propellerhead
SOFTWARE

Steinberg

Operation Manual by Ernst Nathorst-Böös, Ludvig Carlson and Anders Nordmark

Navigating this document:

Please use one of the methods described below to quickly find the desired information in this on-line documentation:

- **Use the Table of Contents provided by the Acrobat Reader program.**

- **Use the Adobe Acrobat Reader Search function.**

- **Click on a cross-reference (green text) to jump to the respective topic.**

It is of course possible to print out this document or parts of it.

Additional Information on how to use the Adobe Acrobat Reader program can be found in its on-line Help.

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Introduction

Welcome to ReCycle!

First of all we'd like to thank you for purchasing ReCycle! You are now in possession of a unique tool which will be an enormous time saver and which will add great creative possibilities to your music making.

Before ReCycle, using drum loops was very technical. Also, once you had committed yourself to a sample, you were stuck with its inherent tempo, its bass drum pattern, its snare sound etc. A bit like painting by numbers.

With ReCycle all that has changed. This program puts you – the musician – back in control, and lets you concentrate on what you do best. Which of course is creating music.

What can I do with ReCycle?

With ReCycle, you can perform a number of pretty amazing "tricks" on your drum loops:

- Change the tempo without affecting pitch.
- Change the pitch without affecting tempo.
- Quantize drum loops (either to straighten up the timing or to change the feel, for example by applying a "groove map").
- Extract the timing (a groove map) from a drum loop. This can then be applied to other sequenced parts or even to other loops!
- Replace individual sounds in a drum loop.
- Edit the actual playing in the drum loop without affecting the basic feel.
- Extract sounds from loops.

Copyright Issues

The raw material with which you feed ReCycle is drum loops, grooves, breakbeats, or whatever sampled weirdness you find appropriate. Included in this package is a great selection to get started with. When you grow out of that you'll find a wealth of other sampling CDs and CD-ROMs out on the market to pick from. However, please read the following text carefully:

Every published recording carries a warning, like this:

- "All rights of the producer and owner of the recorded work are protected by law, unauthorized copying, public performance..."

The text above means it is illegal to use this recording in your own work, unless you obtain permission (see below).

● Failing to observe a copyright warning may result in legal action taken against you. Make absolutely sure any material you use in your own recordings is cleared for use, or you may find yourself in serious legal trouble!

Some CDs (and other media) are created specifically for sampling. Even then you must ensure the result is properly cleared for use in your own recordings. If you find a disclaimer text that goes something like the one below, beware:

- "Every effort has been made to ensure that this CD contains sounds you can safely use in your music. However, the producers of this product can not accept responsibility for any direct or consequential loss..."

In this case, please contact the producer to find out exactly what applies. Again, do not use any material from this medium without making sure it is properly cleared for use.

Clearing

So, how do you go about obtaining permission to use a recording, often referred to as "clearing a sample"?

The owner of a CD is listed on the CD, in conjunction with a "P" symbol and a date. Contact the owner to obtain permission. If you can't find the owner, contact the company following the © symbol on the CD. If you can't find that either, contact the manufacturer or record label listed on the packaging. Please note that there are several types of clearance, for different types of usage. Preferably contact an attorney familiar with copyright law, for assistance.

About This Manual

Operation Manual vs Sampler Supplement

- The Operation Manual covers basic operations.
- The Sampler Supplement contains sampler specifics, export file information and key commands.

Mac vs Windows

The doumentation is both for the Macintosh and Windows versions of ReCycle. Most pictures show the Macintosh version but things are identically titled and positioned in both versions.

Sometimes, a key command is different in the two versions. This is indicated like this: Hold down [Option] (Mac) / [Alt] (Win) and...

If a paragraph specifically relates only to either version of the program, this is indicated like this:

Mac: Macintosh version only.

Win: Windows version only.

2

Macintosh Installation

Requirements

To use ReCycle for Macintosh you need the following:

- Any Power Macintosh with a CD-ROM drive and 16-bit audio.
- 16 MB of RAM or more.
- System 8.0 or later.

For communication with your specific sampler, you might also need:

- A MIDI Interface and cables, and/or...
- SCSI cables.

For SCSI communication, your computer must use SCSI Manager 4.3 (see page 16).

Setting Up The Computer

Before proceeding, your computer should be set up and you should be reasonably familiar with its operation. You should also install all peripherals, such as MIDI interface etc.

Turning on your system

1. **If you have any peripherals connected to the computer or sampler, always turn these on first.**

2. **If you are using a sampler with the operating system on a floppy disk or hard disk, make sure the operating system is loaded before you turn on your computer.**

3. **Turn on the computer.**
   It should come alive, showing the desktop after a while. If it doesn't, check your SCSI setup as described at the end of this manual.

4. **Make sure Virtual Memory is Off, in the Memory Control Panel.**
   This is necessary for trouble-free audio playback. If Virtual Memory is On, turn it off and restart the computer.

Finding your way on the ReCycle CD-ROM

Once you have turned on your system, insert the ReCycle CD-ROM and open it in the Finder. At the root of the CD-ROM, you will find a file called "Read Me". Double click this to get information about what is what on the CD-ROM.

Installing the Acrobat Reader

To be able to read the online documentation, you must have the Acrobat Reader application installed. If this isn't already installed on your computer, you need to install it from the ReCycle CD-ROM:

1. **On the ReCycle CD-ROM, open the folder "Acrobat Reader" and double click on the file "Reader 3.xx Installer" (where "xx" is the version number of the Acrobat reader, e.g. "02").**

2. **Follow the instructions in the dialogs that appear.**

3. **At the end of the installation you may be required to restart your computer again. Do so.**

Installing ReCycle

1. **On the CD-ROM, double click the icon named "ReCycle Installer".**

2. **Use the options in the dialog to select a hard disk with a System folder on it. Follow the instructions on screen.**

3. **Click the "Install" button.**

4. **At the end of the installation you may be required to restart your computer. Do so.**

● Don't launch ReCycle yet! You need to perform some additional steps first:

Setting Up The Sampler, MIDI and SCSI

● If you don't plan to use ReCycle with an external sampler, you can skip this section.

1. **Open the Sampler Supplement (a document in Acrobat format in the ReCycle folder), look up the Appendix that describes your specific sampler, and check the heading "Support and Requirements".**

2. **If the sampler connection requires MIDI, turn to Appendix A in the same document and install OMS as described there.**

3. **Again, please look up the relevant sampler Appendix, and install and set up the sampler as described there.**

● Please read the section about your specific sampler thoroughly! If your sampler communicates with the computer via SCSI, please note that improper SCSI connections may cause permanent damage to the computer, sampler and other SCSI peripherals.

Read the Read Me file!

In the ReCycle! folder that was created on your hard disk during installation you will find a file called Read Me. This will contain any late-breaking updates that didn't make it into the manual. Please double click on it and read it before proceeding.

Register your software!

Please fill out and send in the registration card that comes in this package. Doing so will make sure you are entitled to technical support and kept aware of updates and other news regarding ReCycle.

Launching ReCycle

1. **Locate your ReCycle program icon (in the new "ReCycle!" folder on the hard disk, *not* on the CD-ROM) and double click on it.**

2. **The program prompts you to insert the ReCycle CD-ROM (if not already in the drive).**
   This is only required the first time you run the program.

3. **A dialog box appears, asking you to enter your name, company and serial number. Do so, and click OK.**
   The serial number is printed on the Registration Card which is included in the ReCycle package. Again, this procedure is only required the first time you run the program..

4. **Now, you will be asked whether the program should search for connected samplers. If you have any samplers connected, click Yes; if you plan to use ReCycle without external samplers, click No.**
   When ReCycle finds a properly connected sampler, it is automatically added to the Sampler list. You can modify the Sampler list later if you wish to add, remove or rename samplers. This is described on .

5. **Finally, an Open dialog appears, asking you to locate an audio file for opening.**
   This is the same dialog that appears when you select "Open" in the program (see). If you don't want this to automatically open when you launch ReCycle, you can turn this feature off in the Preferences dialog.

Setting up Audio

ReCycle plays back audio directly from your computer, using whatever sound capabilities it has. If your Macintosh has 16 bit 44.1kHz audio quality, then this is what you get. If you have a Sound Manager compatible audio card installed, the audio can be routed to this.

● Please note that the audio quality during direct playback from the computer may not be immaculate. However, this does not reflect the final audio in the sampler, since this always maintains highest possible quality.

If you want to use the internal audio in your computer, we recommend that you connect the audio output on the back to your sound system instead of using the Macintosh built in speaker.

Audio Settings in ReCycle

After launching ReCycle, you should open the Preferences dialog on the Edit menu and check the Sound Manager Audio settings at the top.
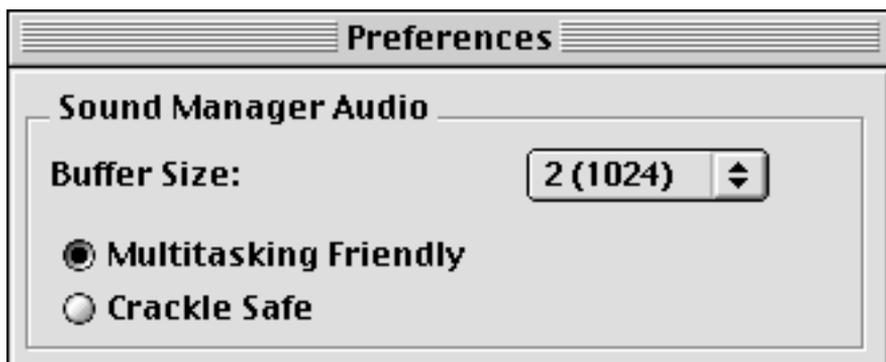
The two Audio Playback Modes

ReCycle uses the Sound Manager on the Macintosh to play audio. This allows it to play in the background and happily co-exist with other audio applications. Great care has been taken to make ReCycle compatible with all other Sound Manager applications. This is what we call "Multitasking friendly" audio playback.

However, there's a problem with some combinations of Sound Manager versions and certain Mac hardware, where ReCycle can't automatically determine the correct "audio buffer size". This might lead to crackles or glitches in the audio playback.

● We recommend all users to check the buffer size, as described below, even if you don't have problems with your audio. If you can use a lower buffer setting than the default, the program will be more responsive to control movements.

On some rare occasions, adjusting the buffer size might not be enough to remedy the Sound Manager problems. In this case, you have the option of selecting another method for playing back audio, which we call "Crackle safe". Selecting this method has some drawbacks though, see below.

Setting the Correct Buffer Size

Normally you should leave the Sound Manager Audio setting at "Multitasking friendly". However, you should make sure you have the correct audio buffer size setting. Proceed as follows:

1. **Select "Open" from the File menu.**

2. **In the dialog that appears, select the audio file "Drum Tools Demo.aif" in your ReCycle folder, and click Open.**
   The Drum Tools Demo loop opens.

3. **Activate Playback by clicking the Play button.**

4. **Open the Preferences dialog from the Edit menu.**

5. **Make sure the "Multitasking friendly" mode is selected.**

6. **Locate the Buffer size pop-up.**

7. **Select the *smallest* buffer size that allows you to play back audio without problems.**

8. **If none of the buffer sizes seem to work, switch from "Multitasking friendly" to "Crackle safe", in the Preferences dialog and set the buffer pop-up to the value closest to "(1024)".**

About the Crackle Safe Option

Selecting the Crackle Safe option will make sure that ReCycle works properly in all situations. However, the mouse pointer will not move as smoothly and you might possibly run into audio problems with other programs playing via the Sound Manager. Furthermore ReCycle might possibly disturb other background processes such as networking.

System Information

When ReCycle is running, you will find an additional item on the Apple menu, called "System Information". If you select this item, a dialog will open, displaying information about your computer and the SCSI and OMS configurations:

General

This section contains info about your computer's processor type, operating system, physical memory and virtual memory. You cannot change these settings.

SCSI

This section indicates whether SCSI Manager 4.3 is installed (required for SCSI communication in ReCycle), and contains a pop-up menu where you can view the available SCSI buses.

- **It doesn't matter which SCSI bus is "selected" on the pop-up menu. The pop-up is only there for you to view the available SCSI buses.**

OMS

This section contains information about the installed OMS version. By using the pop-up menu, you can check which MIDI interfaces are available.

- **Again, it doesn't matter which interface is "selected" on the pop-up menu. The pop-up is only there for you to view the available interfaces.**

Copy to Clipboard

Clicking this button copies the contents of the System Information dialog onto the Macintosh clipboard. You can then paste this into a text file or an e-mail, e.g. when contacting tech support.

Memory setting and Audio files

Every Macintosh program has a memory setting. This is used to tell the computer how much RAM memory to reserve for a particular program. This setting can be changed from the Finder as described below.

When ReCycle ships, you will be able to load 30 seconds worth of 44.1 kHz audio. This is a total figure which can be divided by as many windows as you like. You might for example have a 6 seconds long sample in one window and a 4 seconds long sample in another window.

In addition to this, more free memory is needed when you transmit samples to your sampler.

If you find you need to increase the amount of memory dedicated to ReCycle, proceed as follows:

1. **If ReCycle is running, save the files you are working on.**

2. **Quit ReCycle.**

3. **Locate the ReCycle icon in the Finder and click on it once to select it.**

4. **Select Get Info from the File menu.**
   Exactly what the dialog that appears looks like depends on what System software version you are using. What you are looking for is the setting for the maximum amount of memory that should be assigned to ReCycle.

5. **Change the memory setting by clicking on it and typing in a new value.**
   As a guideline, for each 100 kbyte that you increase the setting with, you will be able to load approximately one more second of sound.

6. **Now, ReCycle will use this amount of memory, if it is available. If there isn't that much memory for it to "grab" (you might have other programs running which already occupy some of your memory), it will use as much as it can get. If the program can't even find the "minimum" amount of memory, it won't start.**

For more information about the memory settings in the Get Info dialog, see your Macintosh manual.

Getting Help and Additional Info

If you pull down the Contacts menu in ReCycle, you will find four menu items that allow you to contact the manufacturers and get support:

```
Contacts
    Go to the Propellerhead Homepage...
    Go to the Steinberg Homepage...
    Download Drum Loops...
    ReCycle! Tech Info and Support...
```

● For these items to be useful, you need to have a valid Internet connection and an Internet browser installed on your computer.

• **Go to the Propellerhead Homepage...**
This menu item brings you to the homepage of Propellerhead Software, where you will find information about new ReCycle versions, etc.

• **Go to the Steinberg Homepage...**
This menu item brings you to the homepage of Steinberg, where you will find information about ReCycle, Cubase VST and other Steinberg programs, as well as lists of Steinberg distributors worldwide.

• **Download Drum Loops...**
This menu item brings you directly to the Drum Loop page on the Propeller-head web site. Here you can download various drum loops for free.

• **ReCycle! Tech Info and Support...**
This menu item brings you directly to the ReCycle Support pages on Stein-bergs web site. Use this option if you are having trouble with ReCycle and need help!

3

Windows Installation

Requirements

To use ReCycle for Windows you need the following:

- An Intel Pentium computer running at 66 MHz or faster.
- A 640x480, 256 color monitor or better.
- A CD-ROM drive.
- 16 MByte RAM or more.
- A Windows compatible, 16-bit audio card.
- Microsoft Windows 95/98 or NT 4.0 or later.

For communication with your specific sampler, you might also need:

- A Windows compatible MIDI Interface and cables, and/or...
- A 100% Windows compatible SCSI interface and cables.

Setting Up The Computer

Before proceeding, your computer should be set up and you should be reasonably familiar with its operation. You should also have the audio card installed and working properly.

- **To check whether your audio card works properly, try playing back audio with the Media Player application (included with Windows).**

● The quality of the sound during direct playback from ReCycle depends fully on the audio card. If you have a not-so-good audio card, this may mean that the sound quality during direct playback from the computer isn't immaculate. However, this does not reflect the final audio in the sampler or in exported files, since this always maintains highest possible quality.

Depending on whether you plan to use a sampler, and the model of the sampler(s), you may also need MIDI and/or SCSI interfaces. See .

Turning on your system

1. **If you have any peripherals connected to the computer or sampler, always turn these on first.**

2. **If you are using a sampler with the operating system on a floppy disk or hard disk, make sure the operating system is loaded before you turn on your computer.**

3. **Turn on the computer.**

Finding your way on the ReCycle CD-ROM

Once you have turned on your system, insert the ReCycle CD-ROM and open it. At the root of the CD-ROM, you will find a file called "Read Me". Double click this to get information about what is what on the CD-ROM.

Installing the Acrobat Reader

To be able to read the online documentation, you must have the Acrobat Reader application installed. If this isn't already installed on your computer, you need to install it from the ReCycle CD-ROM:

1. Insert the ReCycle CD-ROM.

2. On the CD-ROM, open the folder "Acrobat Reader" and double click on the application file "ar3xx.exe" (where "xx" is the version of the Acrobat Reader, e.g. "02").

3. Follow the instructions in the dialogs that appear.

Installing ReCycle

1. On the CD-ROM, double click the icon named "Install ReCycle 1.7".

2. Follow the instructions in the dialog box that appears.

3. At the end of the installation you may be required to restart your computer. Do so.

● Don't launch ReCycle yet! You need to perform some additional steps first:

Setting Up The Sampler, MIDI and SCSI

● If you don't plan to use ReCycle with an external sampler, you can skip this section.

1. **Open the Sampler Supplement (a document in Acrobat format in the Re-Cycle folder), look up the Appendix that describes your specific sampler, and check the heading "Support and Requirements".**

2. **If the sampler connection requires MIDI, you need to have a MIDI interface installed and working.**
   To install a MIDI interface, follow the instructions in the manual that came with it. Make sure to install the latest driver for the interface.

3. **If the sampler connection requires SCSI, you need to have a SCSI interface installed and working (see "Installing SCSI" below).**

4. **Again, please look up the relevant sampler Appendix, and install and set up the sampler as described there.**

● Please read the section about your specific sampler thoroughly! If your sampler communicates with the computer via SCSI, please note that improper SCSI connections may cause permanent damage to the computer, sampler and other SCSI peripherals.

Installing SCSI

ReCycle works with any SCSI host adapter that is 100% Windows compatible.

● Do not connect anything to the SCSI card until you have finished installation of the card and its drivers. Also read the section in the on-line Sampler Supplement document about your specific sampler thoroughly before making any SCSI connections.

About SCSI IDs

The SCSI host adapter itself normally has its SCSI ID set to 7. This means that no other device can be set to SCSI ID 7.

Verifying SCSI Communication with the Sampler

The SCSI communication between the computer and the sampler can be viewed as two different links: the communication between the SCSI host adapter and the sampler, and the communication between Windows and the SCSI host adapter. Both these links need to be verified.

● If any of the verifications below fail, you need to check your SCSI connections and settings and try again. Again, make sure you have read the section about your sampler in the online Samplers documentation.

Verifying that the SCSI Host Adapter "sees" the Sampler

When you turn on your computer after having connected and booted the sampler, look at the initial BIOS information displayed on screen (before Windows is started). When the BIOS of your SCSI host adapter starts, you will note that it scans the SCSI bus for connected units. If your sampler is properly connected and running, the SCSI host adapter should find it and display its name briefly.

Verifying that the Sampler is registered by Windows

When Windows starts you should get an alert saying that "Windows has found new unknown hardware". This indicates that Windows has found your sampler. The "Add New Hardware Wizard" will then appear, asking you to install device drivers for the hardware. Proceed as follows:

1. **On the first page of the Wizard, just click "Next".**

2. **Next, select the option "Search for the best driver for your device" and click "Next".**
   The Wizard will now display a page with options for where Windows should look for the new driver (floppy disk, CD-ROM, etc).

3. **Make sure none of these options are selected, click "Next" and then "Next" again.**
   The Wizard will now inform you that Windows hasn't installed a driver for the device, which is precisely what we want.

4. **Click "Finish".**

● Depending on the type of sampler, the "Unknown Hardware" alert may be shown again and you may have to perform the steps above several times. This is perfectly normal - just go through with it. You will only have to do this the first time you start the computer with the sampler connected.

Read the Read Me file!

In the ReCycle folder that was created on your hard disk during installation, you will find a file called Read Me. This will contain any late-breaking updates that didn't make it into the manual. Please double click on it and read it before proceeding.

Register your software!

Please fill out and send in the registration card that comes in this package. Doing so will make sure you are entitled to technical support and kept aware of updates and other news regarding ReCycle.

Launching ReCycle

1. **Locate the ReCycle entry on the Start menu and select it.**

2. **The program prompts you to insert the ReCycle CD-ROM (if not already in the drive).**
   This is only required the first time you run the program.

3. **A dialog box appears, asking you to enter your name, company and serial number. Do so, and click OK.**
   The serial number is printed on the Registration Card which is included in the ReCycle package. Again, this procedure is only required the first time you run the program.

4. **Now, you will be asked whether the program should search for connected samplers. If you have any samplers connected, click Yes; if you plan to use ReCycle without external samplers, click No.**
   When ReCycle finds a properly connected sampler, it is automatically added to the Sampler list. You can modify the Sampler list later if you wish to add, remove or rename samplers. This is described on .

5. **Finally, an Open dialog appears, asking you to locate an audio file for opening.**
   This is the same dialog that appears when you select "Open" in the program (see). If you don't want this to automatically open when you launch ReCycle, you can turn this feature off in the Preferences dialog.

Audio Settings

After launching ReCycle, you should open the Preferences dialog on the Edit menu and check the Audio Card Driver settings.
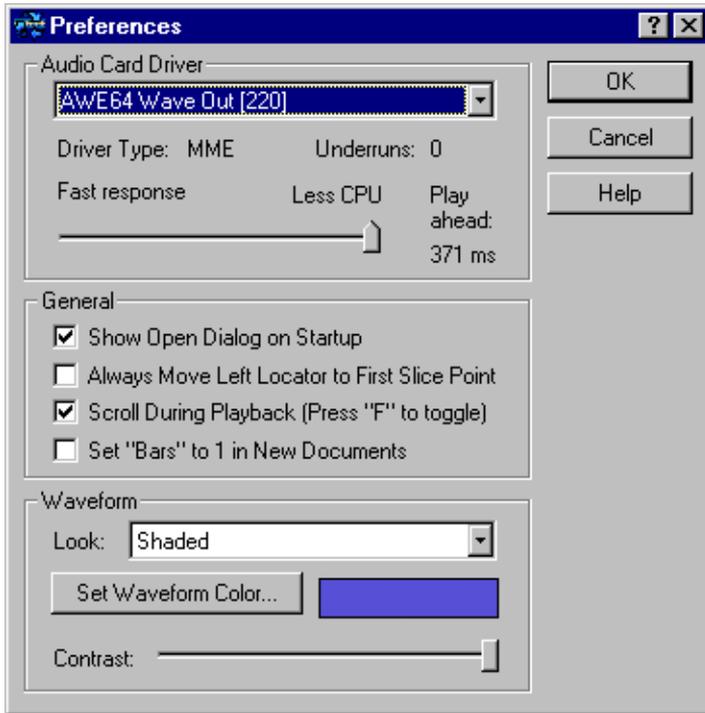

Selecting an Audio Card Driver

The first thing to do is to select a driver for your audio card. There are two main types of audio card drivers for Windows:

- **MME (MultiMedia Extensions) drivers.**
  Practically all audio cards come with an MME driver. However, with MME, only one program at a time can access the audio card. Using MME may also result in a noticeable *latency,* causing the audio playback to be slightly delayed. In the case of ReCycle, you would notice this in that playback started slighlty after you clicked the Play button, for example.

- **DirectX drivers.**
  DirectX is a later system developed by Microsoft to provide developers with more efficient routines to access audio (you may also encounter the term DirectSound, which simply is the audio playback part of DirectX). It allows several programs to access the same audio card, and results in a lower latency value. However, not all audio cards come with a DirectX driver.

As a rule, you should try selecting a DirectX driver as a first choice. Proceed as follows:

1. **To see which drivers are available on your system, pull down the Audio Card driver pop-up.**
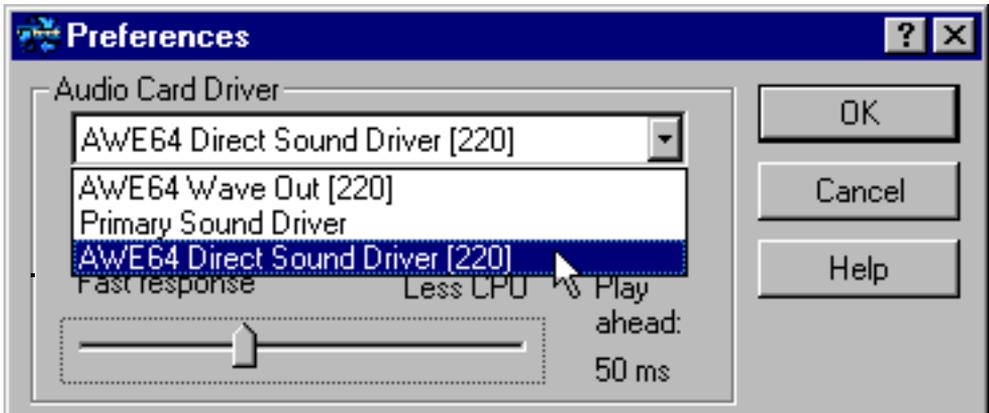
2. **If one of the drivers is clearly labelled "DirectX" or "DirectSound", select it. Otherwise, select the last driver on the list.**

3. **When you have selected a driver, check the "Driver Type" text below the pop-up menu.**
It should say "DirectX", nothing else. If it says "Emulated DirectX", try selecting other drivers on the pop-up menu and see whether anyone of these is a true DirectX driver.
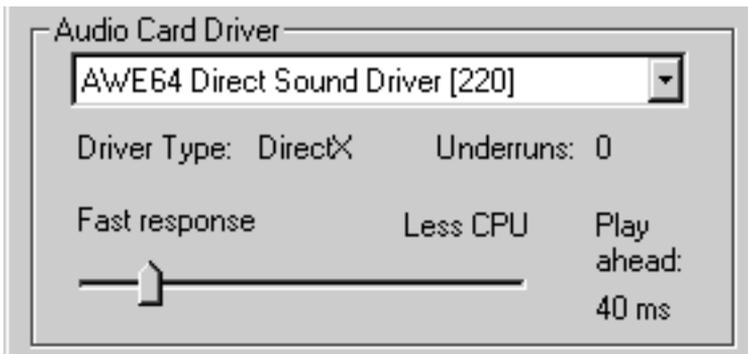
A DirectX driver selected.

4. **If none of the drivers is a true (non-emulated) DirectX driver, you should select an MME driver instead.**
Select the first item on the menu that corresponds to the name of the card you want to use. Avoid selecting drivers with generic names. The "Driver Type" text below the pop-up menu should now say "MME".
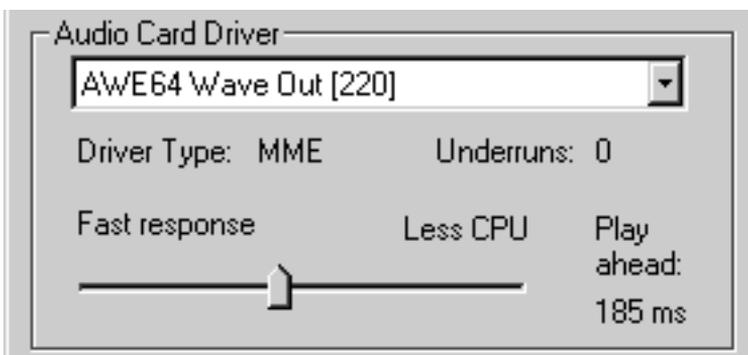

An MME Driver selected.

Setting the Audio Card Buffer

It is very important that you trim the buffer setting properly. The buffer setting is a balance between fast response to playback commands on one hand and "safe" audio playback on the other.

1. **Select "Open" from the File menu.**

2. **In the dialog that appears, navigate to the ReCycle program folder.**
Make sure the "All Files" option is selected on the "Files of type" pop-up menu.

3. **Open the file "Drum Tools Demo.aif".**

4. **Activate Playback by clicking the Play button.**

5. **Open the Preferences dialog from the Edit menu.**

6. **In the Preferences dialog, locate the playback performance slider and drag it all the way to the right.**
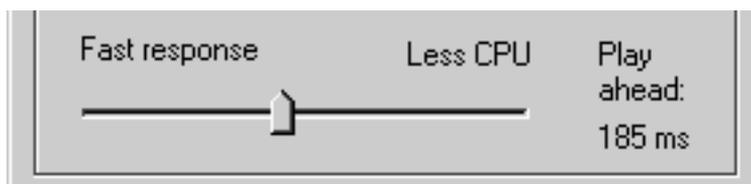
The playback performace slider.

7. **Now drag the playback performance slider to the left, a bit at a time. Try positions further and further to the left, until the sound starts "breaking up" and the "Underruns" indicator starts incrementing.**

8. **Drag the fader a little bit to the right, so that the sound is OK again.**

9. **Close the dialog.**

You are now finished with your audio settings for ReCycle. The settings you just made are stored automatically.

Getting Help and Additional Info

If you pull down the Help menu in ReCycle, you will find menu items for getting help, support and information:

```
Help
    Contents
    ───────────────────────────────
    Go to the Propellerhead Homepage...
    Go to the Steinberg Homepage...
    Download Drum Loops...
    ReCycle! Tech Info and Support...
    ───────────────────────────────
    System Information...
    About ReCycle!...
```
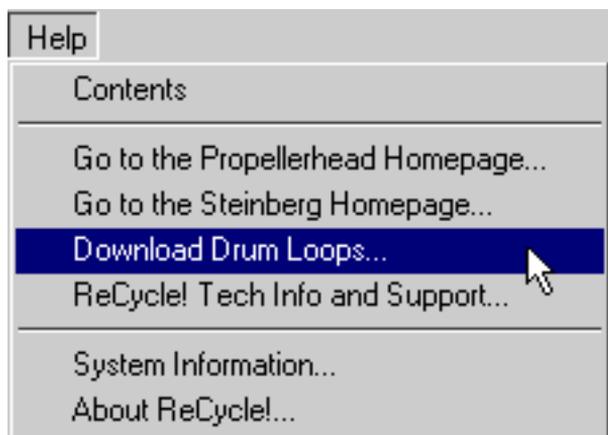
Help Contents

If you select "Contents" a regular Windows Help dialog appears. Use this to quickly find information about details and techniques in the program.

• **You can also get help by clicking the Help button in dialogs, by pressing [F1], or by clicking the question-mark icon in a dialog and then clicking on the item you want to know more about.**

Contacts

The next four items on the Help menu allow you to contact the ReCycle manufacturers and distributors for support and more info.

● For these items to be useful, you need to have a valid Internet connection and an Internet browser installed on your computer.

• **Go to the Propellerhead Homepage...**
This menu item brings you to the homepage of Propellerhead Software, where you will find information about new ReCycle versions, etc.

• **Go to the Steinberg Homepage...**
This menu item brings you to the homepage of Steinberg, where you will find information about ReCycle, Cubase VST and other Steinberg programs, as well as lists of Steinberg distributors worldwide.

• **Download Drum Loops...**
This menu item brings you directly to the Drum Loop page on the Propellerhead web site. Here you can download various drum loops for free.

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

System Information

If you select this item, a dialog will open, displaying information about your computer and the MIDI and SCSI configurations:
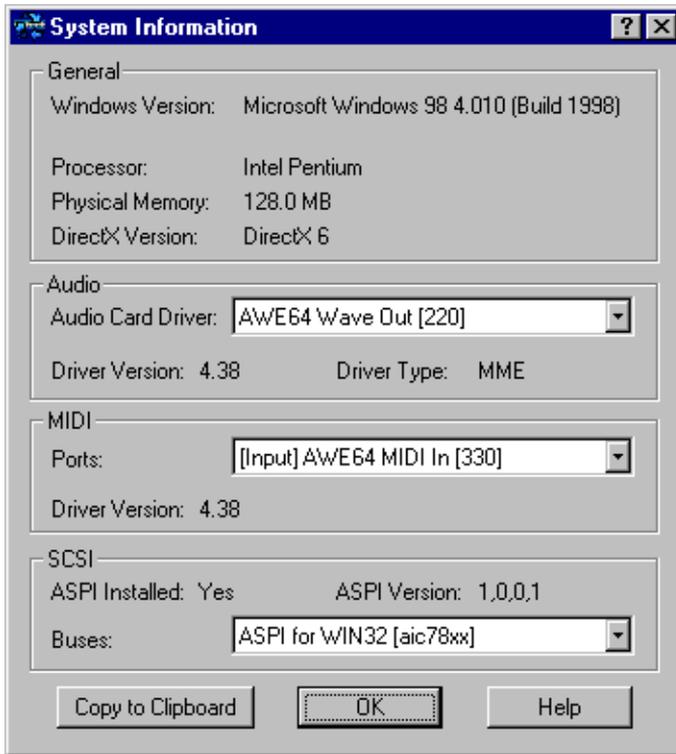
- **You cannot change any settings in this dialog - it is only there to give you information.**
The pop-up menus are really just lists of installed drivers.

General

This section contains info about your computer's processor type, Windows version, physical memory and DirectX version.

Sound

This section contains a list of the available Audio Card Drivers. If you select one of the drivers from the pop-up menu, the version and type (MME/DirectX) of the driver are displayed below.

MIDI

This section contains a list of the available MIDI ports. If you select a port with the pop-up menu, its driver version is displayed below.

SCSI

This section indicates which version of ASPI (the protocol for SCSI communication under Windows) is installed. The pop-up menu contains a list of the available SCSI buses.

Copy to Clipboard

Clicking this button copies the contents of the System Information dialog onto the Windows clipboard. You can then paste this into a text file or an e-mail, e.g. when contacting tech support.

About ReCycle

Selecting this item brings up a dialog listing the fine people involved in creating this program.

4

Quick Tour of ReCycle!

How ReCycle Works

There are many things you can do with ReCycle. But the most common application is to slice a loop for tempo changes or editing. These are the basic steps (details follow later in this chapter):

1. **Load the loop in from your sampler, or, if you have the loop as an audio file on your hard disk, open it.**
The program now analyses the loop and detects the individual "hits" or "sounds" in it. It then displays it as a waveform in a window.

2. **The second step is to work with the Sensitivity slider and the tools to set up a number of *slices.***
Each slice represents an individual sound in the loop. Slices are displayed as vertical lines across the waveform.

3. **The slices are now used for setting up loop points. You can play back the audio directly in ReCycle to check that the loop is correct.**
The loop settings are later used by ReCycle to calculate the tempo of the sampled loop, among other things.

Once you have the slices and loop points set up as desired, it's time to put the loop to use. At this point the procedure is different depending on whether you are using ReCycle with a sampler or in conjunction with another computer program that can read REX (ReCycle Export) files (such as Steinberg Cubase VST):

Transferring and Using the Loop in a Sampler

1. **First you need to transmit the sliced-up loop back to the sampler. Only this time, each slice is transmitted as an individual sample.**
The samples are automatically mapped across the "keyboard" in the sampler, chromatically. This means that if you play the new samples in succession, you get the original loop back. This would be very hard to do by hand, so...

2. **Next, let the program create a MIDI file that will play the slices, one after the other each with the correct length.**

3. **Once all this is done, you are finished with ReCycle. Now you load the MIDI file into your sequencer program and play it back from there.**
This will perfectly recreate the way the loop originally was. But now that the loop is broken down into slices, you can change the tempo in the sequencer and the loop will follow. You can also perform detailed editing, quantizing and other operations on the MIDI file. This will be equivalent to editing *the loop*, since each note in the MIDI file directly represents a sound in the loop!

Exporting and Using the Loop in another Program

1. Export the Loop as a ReCycle Export (REX) file.
This is a special file format, that contains both the audio data of the loop, the slice information and the original tempo.

2. Launch Cubase VST (or another program that reads REX files), and import the REX file onto an Audio Track.
The slices will now appear in their correct order and positions, and you will be able to change tempo and manipulate the slices much like when using a sampler.

● The handling of REX files is described in detail on .

On the following pages you will find a quick tutorial. After this are handling instructions for all different aspects of the program. In the chapter "Example Applications" you will find more practical examples of what you can do with ReCycle.

Using ReCycle with a Sampler - Step By Step

The text below assumes that you have installed ReCycle and a MIDI sequencer such as Cubase and that all connections to your sampler are set up and working. If not, please see the Installation chapter for more information.

1. Launch ReCycle by double clicking on its icon.
A File dialog appears.

2. Locate the file called "Drum Tools Demo.aif" in your ReCycle folder.

3. Select the file and click Open.
You will be asked whether you want the Left Locator to be moved to the first Slice point (see for more info). Click Yes.
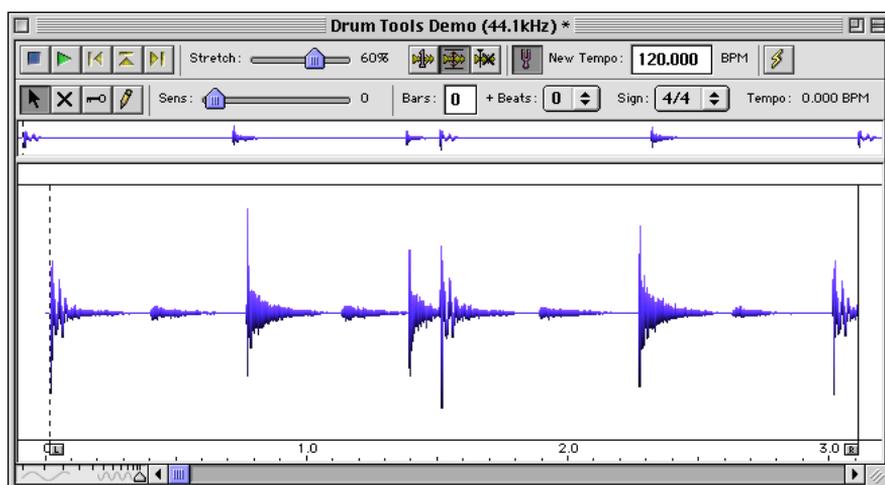

The Drum Tools Demo loop.

4. In the window, click the Play button.
You should now hear the entire loop, from start to end, repeating until you click the Stop button.

Stop   Play
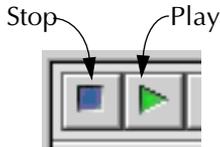
5. Drag the Sensitivity slider to the right, until its value is between 70 and 80 and a number of lines appear.
We call those lines and their triangle symbols "slices" since they indicate that the sound has now been cut up into slices.
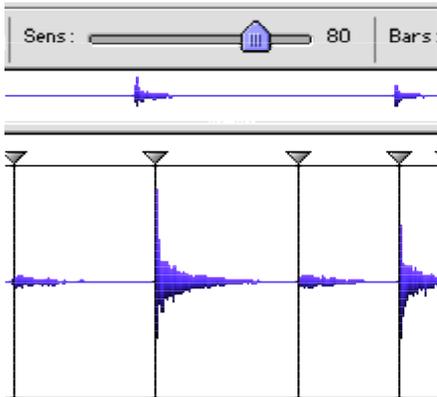

The Sensitivity Slider and some slices.

6. Position the mouse pointer over the "L" handle (the Left Locator) and drag it to the right a bit and release it.
As you will see, it winds up exactly on one of the slices, and on the next lap, playback starts from this point.

7. Drag the Left and Right Locators until the loop is exactly one bar long.
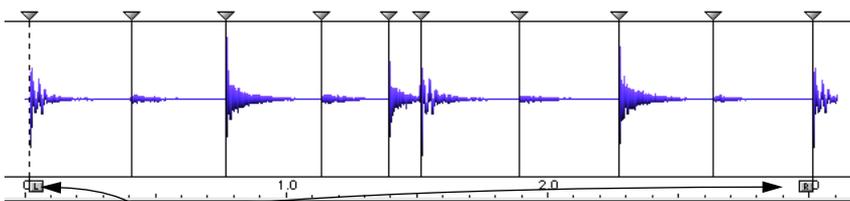
The Locators set up

8. With playback turned off, move the pointer over the waveform view.
The pointer changes to a speaker symbol.

9. Click with the Speaker pointer on the slices in the waveform view.
You will hear each individual sound in the loop. The slice you clicked last is indicated by a dotted vertical line to the left - this slice is called the *Current Slice.*

10.Click in the "Bars" field, type "1", and hit [Return].
The actual tempo of the loop gets calculated.

The Bars/Beats settings and the calculated Tempo.

11.Pull down the Sampler menu and check the Transmit options (the items from "Pitch to New Tempo" to "Silence Selected"). They should all be turned off (no tick mark).

12.Pull the "Stretch" slider to 25%.
You can read more about what Stretch does on page 75.

So, now we have everything we need, a perfect loop, a tempo, a good set of slices and a stretch setting. Let's send this stuff to the sampler.

13.Pull down the Sampler menu and select the sampler you want to use, at the bottom of the menu.
The available options on this menu depends on which samplers you have added to the Sampler List, manually or automatically, as described on page 39. Some options are always available.

14.Pull down the Sampler menu and select the top item on the menu ("Transmit to…" or "Export as…", depending on what you selected in the previous step).
A dialog box opens. Exactly what the dialog looks like depends on the sampler. As an example, we're showing the Yamaha A3000 dialog.

15.Click "MIDI File+Transmit" (or "MIDI File+Export" depending on what you selected in step 13 above).

Now the following happens:

- **The slices get transmitted to the sampler (if it is an external instrument) or a file dialog appears asking you where to put the files needed for the sampler (if you have selected a "file-based" sampler format such as SampleCell or SoundFonts).**
  For details, see .

- **A regular file dialog box appears allowing you to position and name the MIDI File (we will later use this file to play back the loop). Save the file.**

● If you don't use ReCycle together with a sampler, but rather with another computer program such as Steinberg Cubase VST, at this point you would export the sliced-up loop as a REX (ReCycle Export) file. This is described on .

Now we are actually done with ReCycle for a while. Let's start using the stuff that the program produced for us.

1. **If the sampler is inside your computer you will need to load the instrument by using software that came with the sampler. If the sampler is external, you will only need to make sure that the "Program" (or whatever it is called) that was created, is selected and that the instrument is receiving on the MIDI channel of your choice.**

2. **Launch your MIDI Sequencer and make sure you are also transmitting correctly to the sampler (set the MIDI Output and MIDI Channel).**

3. **Play your keyboard to check the material in the sampler. You will note that each key plays a slice. What was previously one long recording is now a number of short snippets spread out over the keyboard. If you play the keys chromatically upwards, the loop will be recreated (although probably not with perfect timing!).**

4. **Load the MIDI file you just saved to disk into your sequencer program. Set it to output to the sampler and start playback.**
   The loop will play back as it originally did.

5. **Try changing the tempo in the sequencer.**
   The fact that you can lower the tempo is thanks to the Stretch setting in ReCycle. See for details.

6. **If you want to, you can also try customizing the loop by editing, rearranging and duplicating the events in the sequencer.**

7. **In the sampler, try re-tuning samples, altering envelopes, sending samples to different outputs, panning etc.**

Congratulations! You just tried out all the basic capabilities of your new program! Of course, there's a lot more to learn and discover. Please proceed to the following chapters to find out about all the capabilities of this amazing program!

5

Sampler Settings

The Sampler Settings dialog

● If you are not using ReCycle with a sampler, you can skip this chapter.
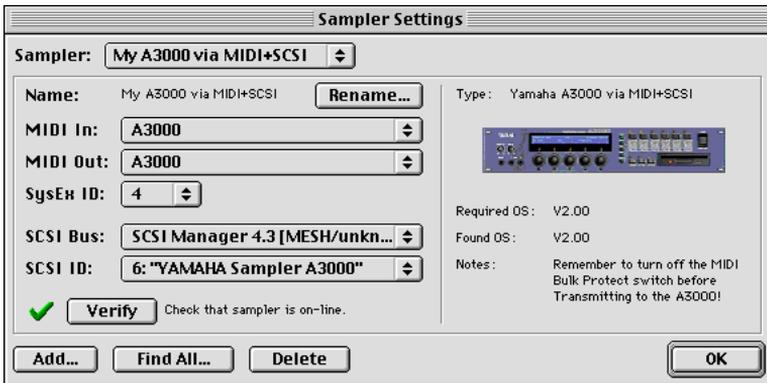
The Sampler Settings dialog on the Edit menu is where you set up and edit the Sampler List. The samplers you have included on this list will be available on the Sampler menu in the main ReCycle window, for transmit and receive operations.

The items on the bottom of the menu are taken from the Sampler List.

● That a sampler is on the list doesn't mean it's set up correctly or even connected to the computer! ReCycle doesn't automatically remove samplers from the list if they are not connected. You may temporarily disconnect your sampler between sessions, without having to set it up in ReCycle again.

Finding all Connected Samplers

● This is not possible for Ensoniq samplers! If you have one or several Ensoniq samplers connected, you must add these manually as described in the section "Adding an Ensoniq Sampler" on .

ReCycle can scan the SCSI and MIDI connections and automatically add all properly connected samplers to the Sampler List:

1. Open the Sampler Settings dialog.
You should have turned on and booted all connected samplers before you turned on the computer and launched ReCycle.

2. Click the "Find All..." button at the bottom of the dialog.
ReCycle scans for samplers.

3. When a properly connected sampler is found (that isn't already on the Sampler List), you will be asked if you want to add it to the list.
Click "Yes" to add the sampler to the list.

4. If a sampler is found, that is already included on the Sampler List, ReCycle will tell you this.
Click "Skip" to continue the search.

● ReCycle will only find one sampler of each model - if you have more than one sampler of the same model connected, you need to add these manually (see).

• **If a sampler is found, that isn't properly connected, ReCycle will inform you of this and tell you what you need to do.**
For example, you may have a Yamaha A3000 sampler connected via SCSI only. The program will find it, but since this sampler requires a MIDI connection, it will not be added to the Sampler List. Instead you will be asked to check your MIDI connection and MIDI interface.

Once the Find All process is complete, all properly connected samplers have been added to the Sampler List (provided that you clicked "Yes" for each one of them in step 3 above). You can check this by pulling down the Sampler pop-up menu at the top of the dialog.
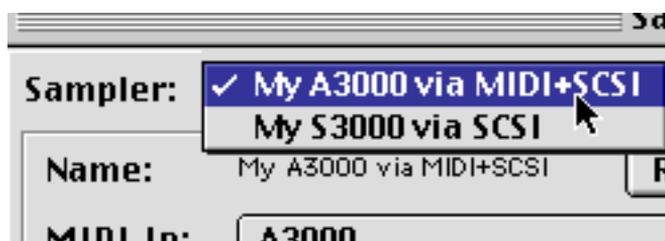
You can now rename and edit the settings for samplers on the list, as described below.

Adding a Sampler Manually

You can manually add a sampler to the Sampler List at any time, regardless of whether the sampler is connected or not. This is useful if you want to set up your system before you connect your samplers, or if you have several samplers of the same model connected (since ReCycle only "finds" one sampler of each model):

1. **Click the "Add..." button at the bottom of the Sampler Settings dialog.**
   The Add Sampler dialog appears.

2. **Use the Model pop-up menu to select the sampler model you want to add.**
   Note that each actual sampler model may have more than one entry on the pop-up menu, if there are different ways to connect the sampler (e.g. via MIDI or via SCSI).

● There are special considerations for some E-mu samplers - please read the E-mu chapter in the Sampler Supplement online document!

3. **If you know that the sampler is connected and booted, click the "Find..." button.**
   ReCycle scans the MIDI and/or SCSI connections for a sampler of the selected model. If it finds one, you are asked whether you want to add it to the Sampler List. If you click "Yes", the sampler is added to the list with the correct SCSI ID and/or MIDI SysEx ID settings.

● Please note that ReCycle will only find one sampler each model - if you have more than one sampler of the same model connected, you need to add these by clicking "OK" instead, and adjust the MIDI/SCSI settings manually in the Sampler Settings dialog, as described on .

4. **To add a sampler without "finding" it, click OK.**
   A sampler of the specified model is added to the Sampler List, with default values for SCSI and/or MIDI settings. You will probably have to change the SCSI and/or MIDI settings manually later.

Adding an Ensoniq Sampler

For technical reasons, Ensoniq samplers cannot be automatically "found" by ReCycle. This means you have to add Ensoniq samplers manually, without "finding" them (by clicking OK in the Add Sampler dialog as described above), and then adjust the MIDI settings in the Sampler Settings dialog.

● To make sure your settings are correct, use the Verify function in the Sampler Settings dialog, as described below.
Note: Make sure the Ensoniq sampler isn't in "Load Mode", as this will disable MIDI communication!

Verifying the Connection with a Sampler

Near the lower left corner of the Sampler Settings dialog, you will find a small icon next to a "Verify" button. The icon indicates whether the currently selected sampler on the Sampler pop-up menu is properly connected (on-line) or not.

For example, if you add a sampler manually without using the "Find" function, the icon will be a red cross, indicating that the sampler isn't on-line. If the selected sampler is found automatically by ReCycle, the icon will be a green check mark, indicating that the sampler is on-line.

Sampler on-line.   Sampler not on-line.

• **To update the status of the icon and check the connection to the currently selected sampler, click the "Verify" button.**
For example, you may want to do this after having changed SCSI or MIDI settings, as described below.

• **Each time you launch ReCycle, the program automatically Verifies the connection with all samplers on the Sampler list.**
If a sampler isn't on-line, it will not be available on the Sampler menu.

Making Settings for a Sampler

In the area to the left in the Sampler Settings dialog, you can adjust the settings of the currently selected sampler. There are three sections:

- **Name.**
This shows the name of the sampler as it will appear on the Sampler menu in the main ReCycle window. If you wish to rename it, click the "Rename..." button and enter a new name.

- **MIDI settings.**
If the selected sampler uses a MIDI connection, you will find settings for MIDI In/Out ports and SysEx ID. To change these, use the respective pop-up menu.

- **SCSI settings.**
If the selected sampler uses a SCSI connection, you will find settings for SCSI Bus and SCSI ID. To change these settings, use the respective pop-up menu.

● If you change the MIDI or SCSI settings manually this way, you should always use the Verify function to check that the sampler is on-line.

Read the Sampler Information!

When a sampler is selected (on the Sampler pop-up menu), you will see an image of its front panel displayed to the right in the Sampler Settings dialog, along with model and connection information. Below the image, you will also find the following information:

- **Required OS.**
This is the operating system required for the sampler to work with ReCycle.

- **Found OS.**
This is the operating system currently used by the sampler. If this is an older OS version than the "Required OS", you need to upgrade the sampler.

- **Notes.**
Under this heading you may find additional important information. There may for example be certain settings you need to make in the sampler before using it with ReCycle. Make sure that you follow the instructions under this heading carefully!

Deleting a Sampler from the list

If you wish to remove a sampler from the Sampler List, proceed as follows:

1. **Pull down the Sampler pop-up menu and select the sampler you want to remove.**
A picture of the sampler is displayed, together with information about the required Operating System and additional notes.

2. **Click the "Delete..." button at the bottom of the dialog.**

3. **Click "Yes" to confirm that you want to remove the sampler.**

6

Opening and Receiving Audio

About Sounds and Memory

Whenever ReCycle displays audio in a window, it has to load it into the computer's RAM memory.

Mac: If you want to be able to load a lot of sound files or if you want to have many windows open at the same time you will need to assign the program more memory. See page 17 for more info.

Win: How much audio you can load into the program at one time depends on how much memory you have in your computer (total) and how much of it that other programs are currently using. If the program tells you there is not enough memory for a certain operation, or if you can't open an audio file (in any of the supported formats), the first thing to try is to quit other programs.

You can open files that are up to five minutes in length, if you have enough memory for it. To open a five minute file (or two files that are two and a half minute long, for example) ReCycle has to have access to 26 MByte of memory. Please not though, that Transmitting audio requires even more memory (the exact amount depending on the length of the Slices and the Stretch factor).

Using Open
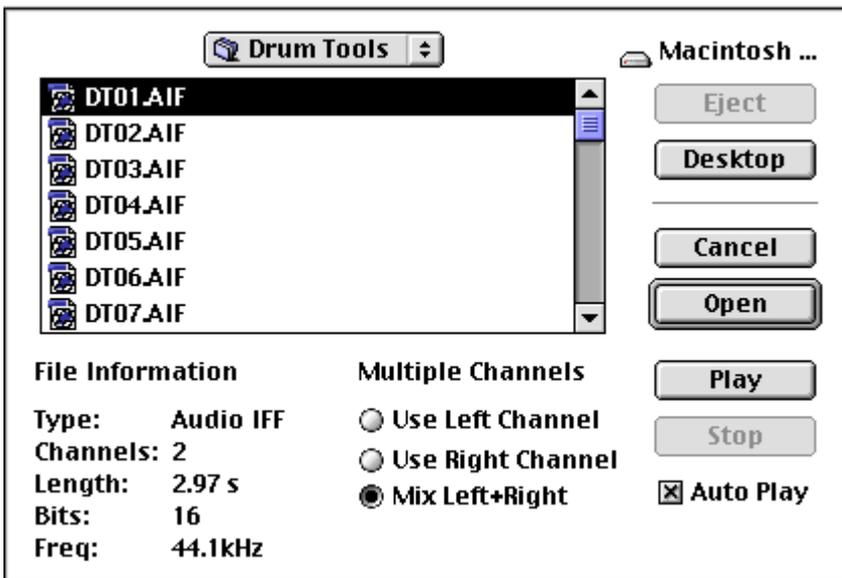
The Open dialog.

The Open item on the File menu is used to load audio files from the hard disk.

The dialog box is a standard file dialog with some additions.

● By default, this dialog will appear automatically when you launch ReCycle. If you don't want this, open the Preferences dialog on the Edit menu, and deactivate the "Show Open Dialog on Startup" option.

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.

File Information

Type:	Audio IFF
Channels:	2
Length:	2.97 s
Bits:	16
Freq:	44.1kHz
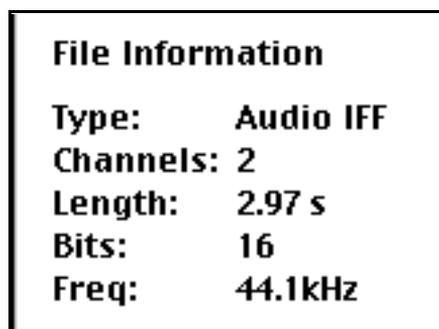
The File information

Channel Selectors

Multiple Channels

○ Use Left Channel
○ Use Right Channel
◉ Mix Left+Right

These radio buttons appear in the Open dialog if the selected file is a stereo file.

Only one channel (mono) at a time can be opened or Played from the dialog. The Channel selectors therefore allows you to select one of three alternatives:

- **"Use Left Channel" and "Use Right Channel" access the corresponding channels in a stereo file.**
- **"Mix Left+Right" allows you to mix the two channels in a stereo file into mono, when opening the file.**

Play and Stop buttons

When you click the Play button, the selected channel in 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 or channel is selected from the dialog. If a new file or channel 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.

Filetype Selector

- **When the top item on this menu is selected, the file list will show all files in the directory that are in any of the formats that ReCycle supports.**

- **When any of the other alternatives are selected, the files list only shows files in that format.**

About The Different File Formats

ReCycle loads 16 bit files with any sample rate.

The table below shows the supported file formats.

Some of the file formats below may contain more than one channel, that is they may be stereo files. As described above, the Open dialog will then allow you to pick one channel or a Mix of both.

Name	Extension (PC)	Comment
ReCycle	RCY	The files created when you save in ReCycle.
Wave	WAV	The standard Microsoft file format for audio. May contain more than one channel and may be in formats other than 16-bits.
Audio IFF (AIFF)	AIF	Audio Interchange File Format; Apple's standard audio file format. May contain more than one channel and may be in formats other than 16-bits.

In addition, the Macintosh version of ReCycle supports the following format:

Name	Full Name	Comment
SD II	Sound Designer II	The current Digidesign file format. At least 16 bits. May contain more than one channel.

Finally, ReCycle "supports" yet another file format: ReCycle Export files (PC extension ".REX"). This is the file format used when exporting ReCycle files for use in other programs, such as Cubase VST. However, ReCycle Export files cannot be opened by ReCycle itself. For more information, see .

Using Drag and Drop

ReCycle supports standard Drag and Drop. Proceed as follows:

1. **In the Finder/Explorer, locate an audio file in one of the supported file formats.**

2. **Drag this file and drop it on the ReCycle icon.**
   If the program is already running, the file appears in a new window. If it isn't, ReCycle launches and the file opens.

● If it's a stereo file, a dialog will appear, asking you which channel to use. The options are the same as in the Open dialog.

Launching from Files

● If you open a stereo file this way, a dialog will appear, asking you which channel to use. The options are the same as in the Open dialog.

Receiving Audio from the Sampler

If you have an external sampler connected to the computer, ReCycle can receive the audio directly from it.

1. Make sure the sampler is selected on the lower half of the ReCycle Sampler menu.
If the sampler cannot be found on the Sampler menu, you need to go into the Sampler Settings dialog and add the sampler, as described on page 38.

2. Select "Receive..." from the Sampler menu.
A dialog appears. Its exact appearance depends on which sampler you have.

The Yamaha A3000 Receive dialog.

3. In the dialog box you will find a pop-up which allows you to select a sample in the sampler.

4. Clicking Receive transfers the sample into the computer and opens it in a new window.
If you have selected a stereo sample, you will be asked which channel to use, just as when opening audio files from disk.

If the "Do you want to move the left locator..." dialog appears

If you Open or Receive a sample, and there is 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. We recommend that you click "Yes" unless you have good reason.

• **If you want this to be done automatically, open the Preferences dialog on the Edit menu and activate the option "Always Move Left Locator to First Slice Point".**
When this is activated, ReCycle will automatically place the Left Locator on the first slice point when you Open or Receive a sample, without asking.

See page 68 for more information on setting Locators.

7

The ReCycle Window

Window Overview

Stop Play   Stretch slider   Sensitivity slider   Transmit/Export button

 Slice Audition buttons   Transmit options buttons   Tempo settings

DT02.AIF (44.1kHz) *

Stretch: Off   Sens: 68   Bars: 1 + Beats: 0 Sign: 4/4   New Tempo: 120.0 BPM   Tempo: 89.780 BP

Magnification Control   Left Locator   Tools   Slice Marker   Overview display   Right Locator

Waveform   Length settings

Window Title

DT02.AIF (44.1kHz) *
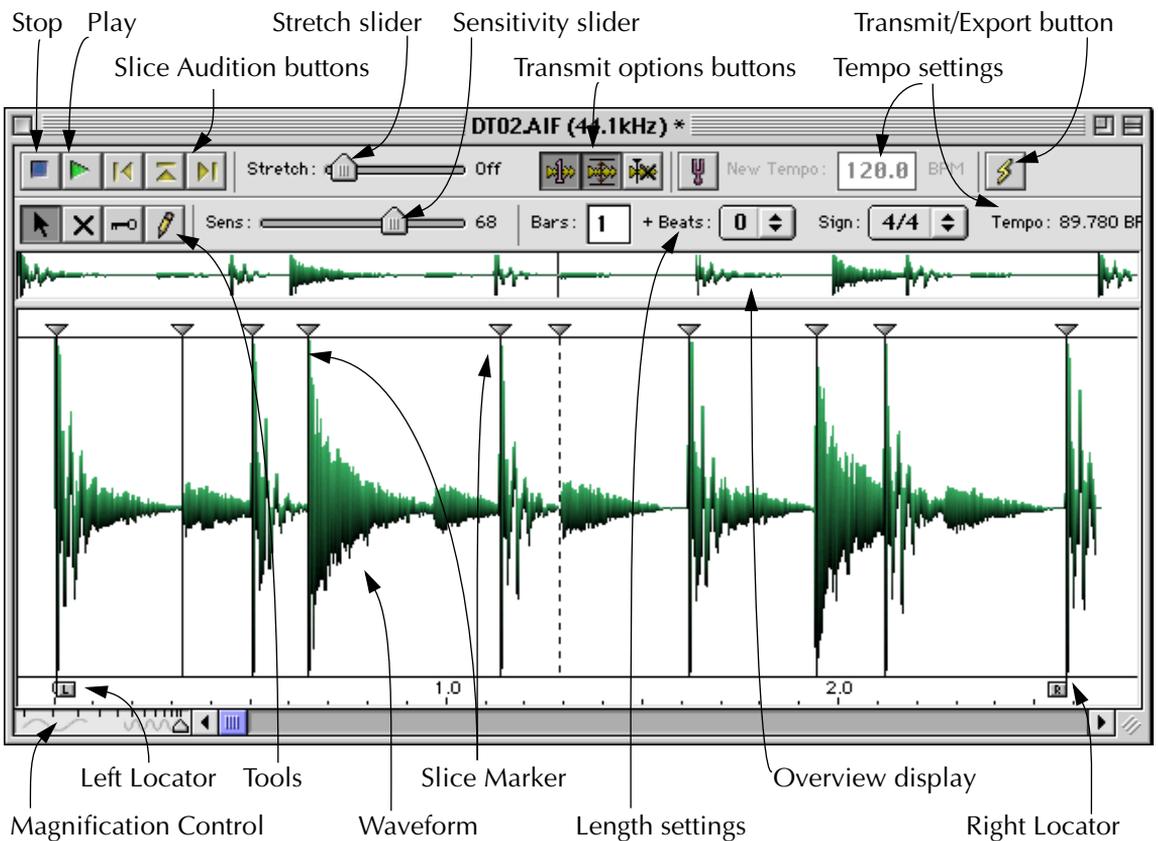
The window title displays three things:

- The name of the file.
- The sample rate at which the file was recorded (see for details about sample rates).
- An asterisk that indicates if the file hasn't been saved yet.

Handling Windows

You can Open or Receive as many loops as RAM permits, and they will each appear in a window.

- For more information about window handling, see the documentation that came with your computer.
- ReCycle's Windows menu contains a list of the currently open windows. Selecting one makes that window active.
- The Close item on the File menu closes the active window.

Toolbox

Arrow tool   Lock tool

Hide tool   Pencil tool
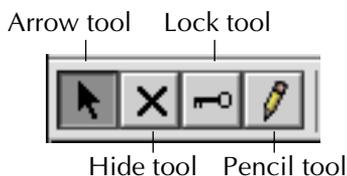
The Toolbox is located in the upper left corner of the window. You select a tool from the Toolbox by clicking on its icon. Below follows a brief description of what the tools do. Detailed applications follow later in this chapter and in the following chapters.

Tool	Function
Arrow	Used for selecting Slice markers.
Hide	Used for deactivating slices by clicking on their markers.
Lock	Used for locking slices, by clicking on their markers.
Pencil	This is used for adding slices manually.

Magnification, Song Position and Scrolling

The Magnification Indicator

If you click or drag in the magnification indicator, the amount of zoom changes. Furthermore, the indicator will always show the current magnification.

Using The Magnifying Glass

Zooming in

1. **Hold down [Command] (Mac) / [Control] (Windows).**

2. **Move the mouse over the waveform area.**
   The pointer turns into a magnifying glass.

• **Click once in the waveform.**
   The view is zoomed in one step. The position you clicked at will be centred in the window.

Zooming out

• **Zooming out is done the same way as zooming in, except you also hold down the [Option] (Mac) / [Alt] (Windows) key.**

The Zoom in and Zoom out pointers.

Using a Zoom rectangle

To select a certain area to zoom in on, proceed as follows:

1. Hold down [Command] (Mac) / [Control] (Windows) and press and hold the mouse button in the waveform display.

2. Drag to make up a selection rectangle.

3. Release the mouse button.
The selected area will now fill the entire window.
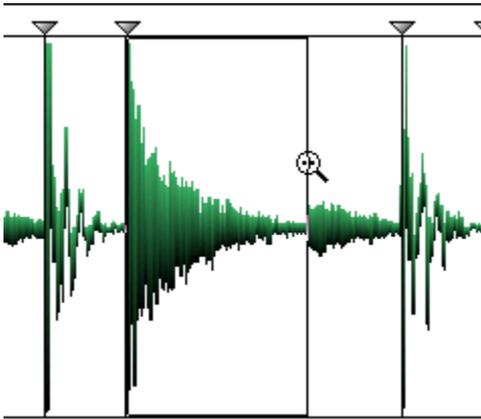
Zooming in on a certain area.

Magnifying using the Thumbnail Overview

• **The method of making up a rectangle with the [Command] key (Mac) / [Control] key (Windows), described above, can also be used in the thumbnail overview.**
This changes the zoom factor of the main waveform, not of the thumbnail itself.
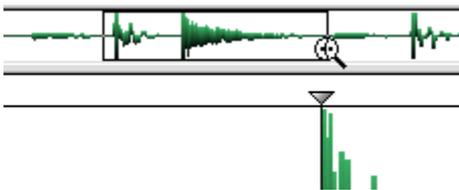
Zooming in using the thumbnail.

Magnify to Fit/Magnify to fit Loop

If you select Magnify to Fit from the Edit menu, 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.

Position

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 in the Preferences dialog, 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. A rectangle in the thumbnail overview indicates which area of the waveform is currently displayed in the waveform display.
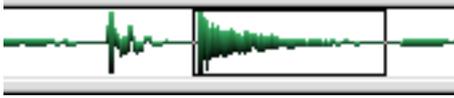
The thumbnail overview shows you which part of the waveform is displayed.

The Scroll Bar

The scroll bar can be used to scroll the view of the waveform.

Scrolling using the Thumbnail

When zoomed in on the waveform, the Thumbnail Overview will display a rectangle indicating which part of the waveform is now shown in the main waveform display. This rectangle can be dragged sideways, which scrolls the waveform display. You can also click anywhere in the Thumbnail Overview to move the rectangle to that position.

Dragging the Thumbnail rectangle.

Waveform Display Options

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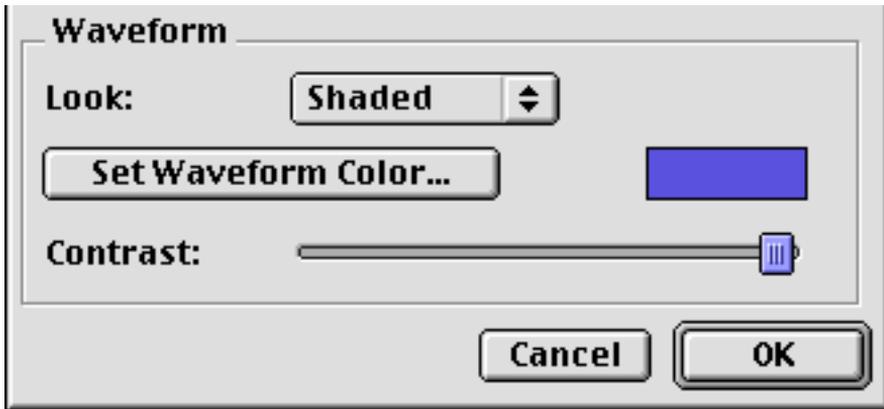
Waveform Color

Click this button to select a new color for the waveform. On the Macintosh, this brings up the standard Apple Color Picker, under Windows this brings up the standard Windows Color dialog. The color field to the right 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 backround display.

The Edit menu

- The standard Edit menu items, Undo, Cut, Copy, Paste and Clear are not used by ReCycle and are therefore not available on the Edit menu.
- Select All and Invert Selection are explained on .

8

Playing Audio

Audio Quality

ReCycle plays back audio directly from your computer, using the sound capabilities of your specific computer (see the Installation chapters for more details).

● Please note that the quality of the sound during direct playback from the computer may not be immaculate, depending on what hardware you are using. However, this does not reflect the final audio in the sampler, since this always maintains highest possible quality.

Playing the entire Loop

To play the entire loop, press [Enter] on the numeric keypad or click the Play button.

The Play Button

To stop playback, press [0] on the numeric keypad or click the Stop button.

The Stop Button

In addition, you can toggle between Play and Stop modes by pressing [Space].

Auditioning Slices

There are three methods you can use to audition Slices:

• **Using the mouse**
When you move the mouse over the waveform area, the pointer turns into a speaker icon. When you click with the speaker tool on a Slice (a section of waveform between two Slice markers), it plays back. The "hot-spot" (the part of the pointer that you aim with) is indicated by a cross. Press [Space] to stop (even if you don't, playback automatically stops at the end of the Slice).

The "hot-spot".
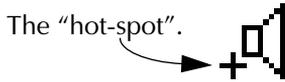
• **Using the Slice Audition buttons**
The three Slice audition buttons are located to the right beside the Play and Stop buttons. They have the following respective functionality:

	Play previous Slice (and make it the current). By repeatedly clicking this button, you can step through the Slices in reverse order and audition each one.
	Play current Slice.
	Play Slice and move to next (making the next Slice the current). By repeatedly clicking this button, you can step through the Slices from left to right and audition each one.

The current Slice is indicated in the ReCycle window by a dotted vertical Slice marker.
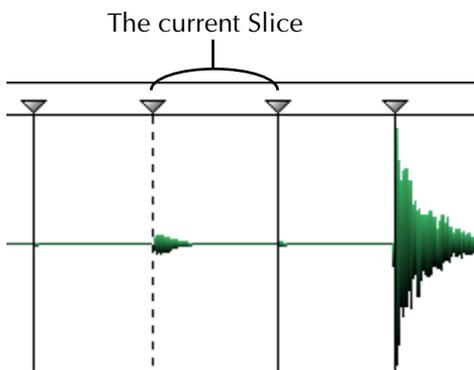
The current Slice

• **Using the numeric keypad**
The keys [7], [8] and [9] on the numeric keypad has the same functionality as the corresponding three Slice audition buttons. Pressing [7] plays the previous Slice, pressing [8] plays the current Slice and pressing [9] plays the (current) Slice and moves to the next.

## Moving the Current Slice without Auditioning

You can also use the numeric keypad to move the current Slice without auditioning:

- **Press [4] to move the current Slice to the previous Slice.**
- **Press [6] to move the current Slice to the next Slice.**
- **Press [1] or [2] to move the current Slice to the Left/Right Locator respectively.**

9

Setting Slices And Loops

Using Sensitivity

Most of the time when working with ReCycle, you will want to cut your loop up into *slices*. A slice is a section of the waveform, from one slice marker to the next.

A slice marker
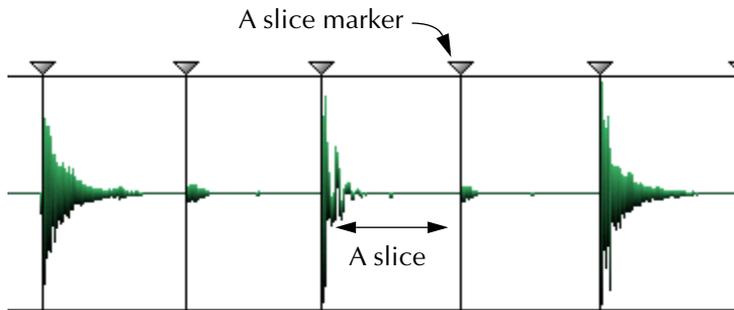
A slice

When you load or receive a loop, ReCycle analyzes it to determine where slice markers should appear (where the individual sounds in the loop are).

The Sensitivity slider is then used by you, to set the overall amount of slices. The higher the sensitivity, the more slices you will get. And, the more slices you have, the smaller entities ReCycle will cut the loop into, when you transmit it. For more information, see .

The number to the right of the slider represents the current position of the slider, where 0 represents minimum sensitivity and 99 maximum sensitivity.

As described below, the quickest way to get a good selection of slices is to set the sensitivity quite high, roughly between 70 - 80, and then use the Hide Tool to deactivate any slices you don't need (see later in this chapter for details on the Hide Tool).

Setting Sensitivity using the Keyboard

• **You can type a number on the typewriter part of the keyboard, directly.**
This can be used to quickly give the slider a rough setting. If you hit "1" it gets set to "11", if you press "2" it gets set to "22" etc.

• **You can use the [+] and [–] keys to "nudge" the slider up and down.**

Using the Hide tool

You might run into situations where there are too many slices on the screen. You could of course reduce the Sensitivity to get rid of the slice markers you don't want, but then other slice markers could disappear too, and this might not be desirable.What you need to do in a situation like this is to "Hide" an individual slice, and this is just what the Hide Tool lets you do: When you select the Hide Tool and click on a slice marker it gets diminished and its line disappears.
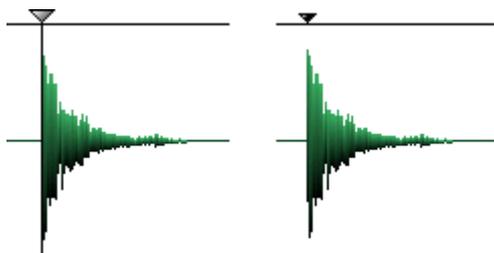
Before and after Hiding a slice marker.

To try the effect of hiding, proceed as follows:

1. Click on two adjacent slices which play one sound each.
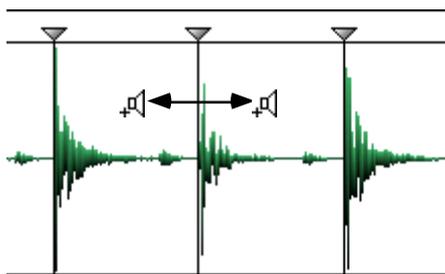
2. Hide the marker that divides the two slices.

3. Click again to audition.
You will hear that what was previously two slices is now one.
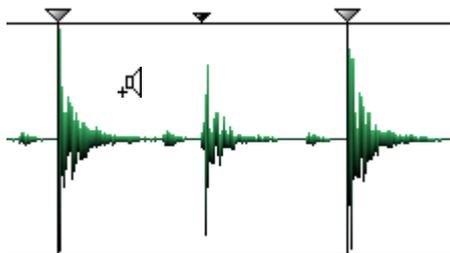
Bringing back Hidden Slices

To "re-activate" a hidden Slice, simply click on it again with the Hide tool.

Hiding several Slices at the same Time

If you have several slices selected (see below) they will all get hidden when you click on one of them.
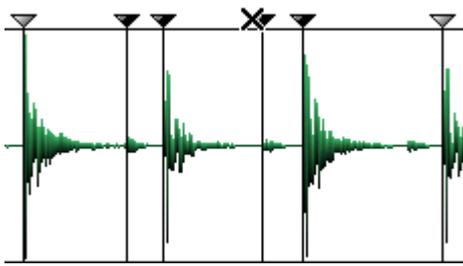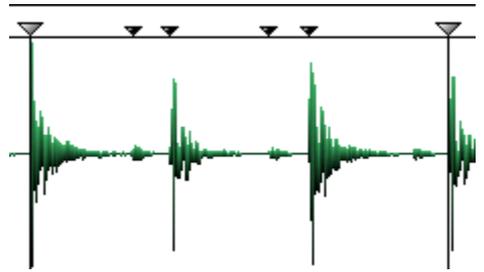
Clicking on one of the selected slices...   ... hides all of them.

When do I use the Hide tool?

Use the Hide tool when you have a situation like the one below:

This slice is probably not wanted.
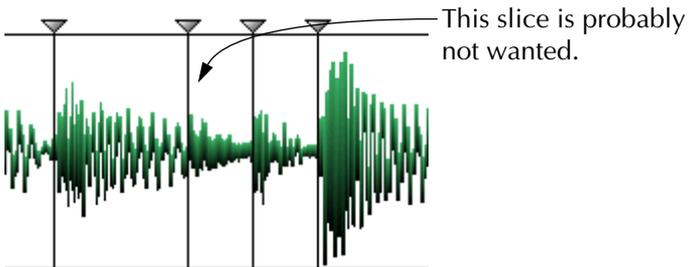
In the example above, the Sensitivity slider had to be set to a fairly high value get the number of slices you see. But raising Sensitivity led to one unwanted slice, splitting a sound in two. Hiding is the solution.
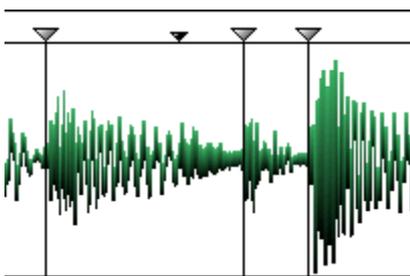
After Hiding the unwanted slice.

How do I find unwanted Slices?

Our most important tip is this: Always audition each slice to hear what they actually play. Try stepping through the loop with the "Play Slice and Move to Next" button, and adjust the Slices until you hear them the way you want them.

Another good practice is to increase magnification slightly and scroll through the slices to look for sounds that have been split unnecessarily.

For optimal results, combine the two techniques above.

Using the Lock Tool

The Lock tool is essentially the opposite of the Hide tool. If you lock a slice, by clicking on its marker with the Lock tool, it will stay even if you drag the Sensitivity slider all the way to zero.
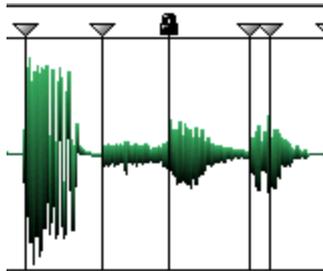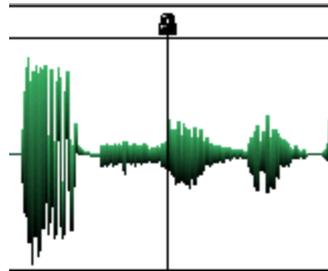

If a slice is locked...   ...it will stay even if you set Sensitivity to zero.

Locking several Slices at the same time

If you have several slices selected (see below) they will all get locked when you click on one of them.
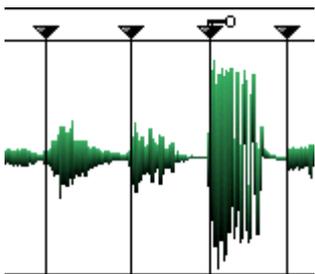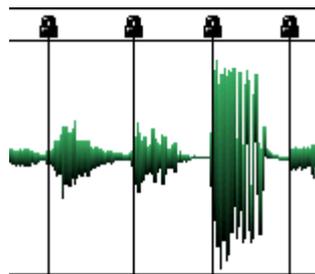
Clicking on one of the selected slices...   ...locks all of them.

Unlocking Slices

To unlock a locked Slice, simply click on it again with the Lock tool.

When do I use the Lock tool?

If you got a good set of slices by just using the Sensitivity slider, but discover that in one or two places you hear two sounds when you click on a slice, then it is time to bring out the Lock tool.

1. Find the place where you hear two sounds when auditioning.

2. Make a mental note of the current slider setting.

3. Set the sensitivity slider to a higher value to get a slice between the two sounds.

4. Audition to make sure you got what you wanted.

5. Lock the new slice.

**6. Drag the sensitivity slider to the original setting.**

Adding Slices manually

● Before adding slices manually, make absolutely sure the slices found by the analyze algorithm don't suffice. The program is very good at finding slice points, and the points found by the program often work better – for example for tempo changes – than the ones that you can add manually.

1. **Identify the area where you need a slice, and zoom in very close on it.**

2. **Select the Pencil Tool.**

3. **Move the pointer over the waveform display.**
A vertical line moves across the waveform. This line indicates where the slice will appear when you click. The line snaps to zero crossings in the waveform (positions where the amplitude is zero), so manually added slices won't introduce any clicks or pops. If the amplitude is zero for a period of time, the line will move continuously over this area.
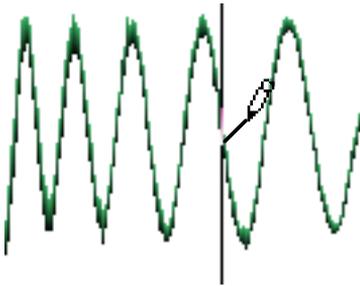
The vertical line snaps to zero crossings.

4. **When you have found the correct position, click with the Pencil.**
The slice appears.

The following rules apply to manually added slices:

• To "remove" an added slice, Hide it as any other.
• Manually added slices are locked. They will therefore not disappear when you lower Sensitivity.
• If you unlock a manually added slice and drag the sensitivity slider down lower than halfway (below 50), it will disappear, just as other slices.

Adding a Slice at any position

• **If you hold down [Option] (Mac) / [Alt] (Windows), the snap to zero crossing is disabled and you can add a slice at any position.**
We do not recommend that you do this unless you have very good reason, since it can introduce clicks and pops in the sound during playback.

When do I add Slices manually?

As described above, we suggest you only add slices manually when the program fails to find one at a position where you need it. In other words, you will need to add a slice manually when you click on a slice and hear two sounds, one after the other, even though the Sensitivity slider is set to 99.

Where do I add the Slice?

Zoom in far enough for the display to clearly show how the cursor jumps between zero crossings. Try to find the first position *before* the beginning of the sound. If you make a mistake, simply hide the slice you created and add a new one at another position.

How many Slices do I need?

Well, it depends...

- If you have Transmit As One Sample (on the Sampler menu) turned on, you don't need any slices at all, except when you move the Locators to find a good loop point.
- If you plan to edit the loop a lot in your MIDI sequencer, you should try to get one slice per sound in the loop, or in some situations (very busy sections for example), one slice per eighth note or sixteenth note (to simplify editing in the sequencer).
- If you want to create a groove, you should try to get approximately one slice per eighth note, sixteenth note or whatever the loop requires.
- If your main reason for slicing the loop is to change the tempo, you generally need as many slices as you can get, but never more than one per individual sound in the loop. This is to retain the "integrity" of each sound when played back from the sequencer.

● Please remember that your ears are always the best judge. Careful auditioning is vital for finding a good selection of slices. Since transmitting to the sampler and trying the loop out in the sequencer is so quick and easy, do not hesitate to go back, change the slicing and re-transmit.

Selecting Slice Markers

Slice markers need to be selected for some operations, like Silence Selected (see page 73 and page 91):

- **Selecting is only done with the Arrow Tool.**

- **You can select one marker by clicking on its triangle symbol.**

- **If you hold down [Shift], you can click on more markers to select them. Clicking again with [Shift] pressed deselects a marker.**
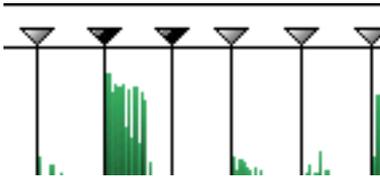

Selected and unselected markers

- **You can make up a selection rectangle by pointing between slices, pressing the mouse button and dragging left or right. When you release the mouse button, all the slices inside the rectangle will get selected.**
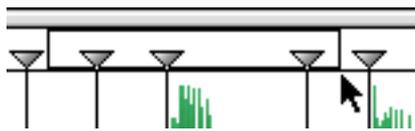

Making up a rectangle like this...   ...selects these markers.
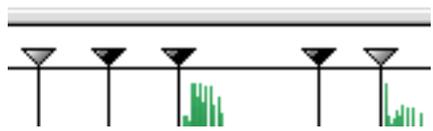
- **You can use the Select All item on the Edit menu to select all markers.**

- **If you have a selection of markers, you can invert the selection by using "Invert Selection", also on the Edit menu.**
  After this operation, the markers that were previously selected are now deselected, and vice versa. This is mainly useful together with Silence Selected, see page 73 and page 91.

Before and after using "Invert Selection"
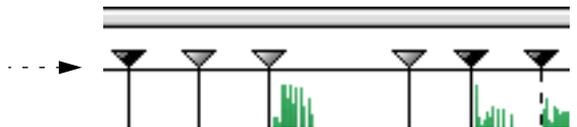
- **To deselect all markers, click between two markers on the ruler.**

Left and Right Locator — Setting the Loop

By dragging

The left and right Locators can be dragged to set the Loop during playback.

- **If you have no slices at all (if the Sensitivity slider is all the way to the left), the Locators can be positioned freely.**
- **If there are any slices visible, the Locators snap to the lines.**
- **If you want to position the Locators freely, even though you have slices, hold down [Option] (Mac) / [Alt] (Win) while dragging a Locator.**

By clicking

- **To set the Left Locator, hold down [Shift] and click on the ruler.**
- **To set the Right Locator, instead hold down [Command] (Mac) / [Control] (Win) and click.**
- **Normally, the positions snap to the closest slice point, but if you also hold down [Option] (Mac) / [Alt] (Win) when you click, you can set the Locator at any point.**

Use the Slices when setting Loop Points!

When trying to find a good loop point, use snap to slices if at all possible. If you can't seem to get a good loop point that way, try raising the Sensitivity slider to get more slices and try again.

When – and only when – you can't find a good loop point in this way, zoom in and adjust the Loop positions with [Option] (Mac) / [Alt] (Win) pressed.

What are the Locators used for?

The Locators are of course used to define the loop you get during playback. But they also have other purposes:

- ReCycle uses the Locator positions when calculating the tempo of the Loop.
- When transmitting audio to the sampler, only the part between the Locators is actually sent.
- When you create MIDI files, only the section between the Locators is taken into consideration, as with the transmitted audio above.

Tempo, Time Signature, Bars and Beats

Many of the operations in ReCycle require you to specify how long the loop between the Locators actually is, meter-wise. This information is then used to calculate the tempo of the loop.

Time Signature

The Sign pop-up menu allows you to choose between a few of the more common Time Signatures. If none of them fit your purpose, you can still "assemble" a correct Time Signature using the Bars and Beats settings, see below.

Bars and Beats

The Bars field and Beats pop-up are used to specify the length of the loop. Lets explain this by example:

Actual Loop Length	Set "Bars" to:	Set "Beats" to:
One bar	1	0
Two bars	2	0
Half a bar in 4/4	0	2
One and a half bar in 6/8	1	3

As stated above, you can use Bars and Beats to "create" some unusual Time Signatures:

Actual Loop Length	Time Signature	Bars	Beats
One bar in 5/4	4/4	1	1
Two bars in 7/4	4/4	3	2
One bar in 9/8	6/8	1	3

Tempo

When the Left and Right Locators are set, and the correct Time Signature and loop Length (Bars and Beats) are specified, this field will show the tempo of the loop. This tempo is inserted into the MIDI Files that ReCycle creates, if "Pitch to New Tempo" on the Sampler menu is turned *off*. See below and .

New Tempo

This field is only available if the "Pitch to New Tempo" option is activated. It is used when you want to match a loop to another tempo by tuning it in the sampler, rather than by Slicing it. See and .

10

Transmit and Sampler Options

Selecting a Sampler to Transmit to

To route the Receive and Transmit functions to a particular sampler, select it from lower section of the Sampler menu. If your sampler is not on the menu you must add it in the Sampler Settings dialog, see page 38.

New Window
SampleCell
SoundFonts
My A3000 via MIDI+SCSI
✓ My S3000 via SCSI
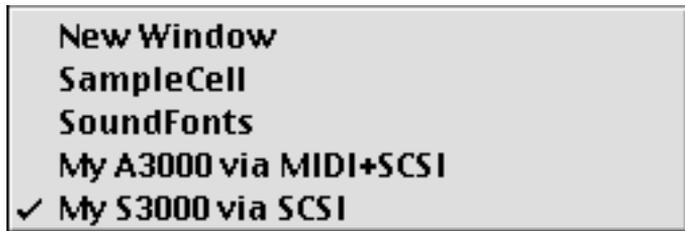
An Akai S3000 selected.

You can have several samplers connected, either of different types or of the same type, but only one at a time can be selected.

You can switch samplers while you are working with the program, which allows you for example to Receive a sound from one sampler and Transmit it to another.

Transmit/Export and Memory

The program needs free memory in the computer for Exporting and Transmitting. In a worst case (with Stretch set to 100%) it needs twice the memory of the longest slice. This means that if you have "Transmit As One Sample" turned on and use high Stretch factors, you need to make sure you have enough memory left, when you Transmit.

For more information, see page 17 and page 45.

Transmit Options
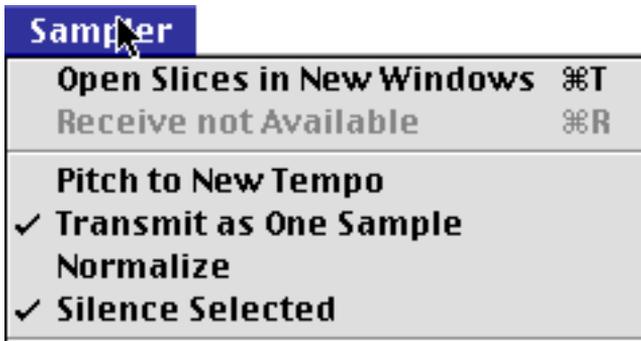
The Sampler menu contains a number of Transmit settings (or "options"), some of which can be turned on/off and others which can be set to a certain value. These four options can also be turned on or off using the four Transmit Options buttons:
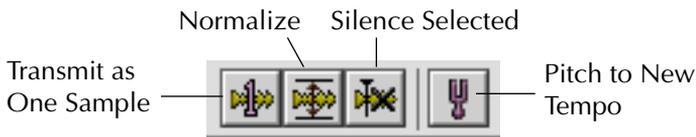
Each document has its own settings. If you are working with a lot of windows, be sure to check that the settings are correct before you Transmit.

The settings only come into effect when the audio is actually being transmitted to the sampler, or when the MIDI File is being created. They have no effect on play-back in ReCycle. But if you want to hear a preview of the effect they have, you can use the "Open Slices in New Window" option described below.

The settings are also saved to disk with the file when you Save.

You will find applications of all options below, and on and onwards.

Transmit as One Sample

Deactivated

When Transmit As One Sample is turned *off*, the audio gets sliced into individual samples when transmitted, 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 Transmit As One Sample is turned *on*, the program will transmit 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.

This mode is mainly useful if you simply want to use ReCycle to find the right tempo for a loop, when you want to use the Pitch to New Tempo feature to tune the sample to the right length or when you want to use ReCycle to extract sounds.

Normalize

With Normalize turned on, ReCycle will permanently change the gain of each slice before transmitting it to ensure maximum level. This is to ensure the noise level is kept as low as possible during playback.

However, if you transmit a loop as a number of slices, normalizing will disrupt the dynamics of the drum loop, since the gain of each slice is changed separately. Therefore, normalizing is probably best used when you have Transmit As One Sample turned *on* (in this case the entire loop is treated as one long sample when being normalized) or when you use the program to extract individual sounds.

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

Silence Selected

When this flag is turned on, the slices that have *selected markers* will be silenced in the final audio.
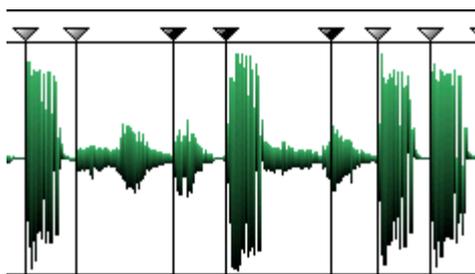
When Silence Selected is turned on, the slices which have selected markers...
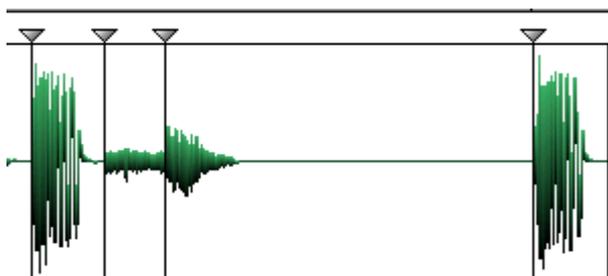
...will be replaced by silence in the final audio.

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

But, Silence Selected works even if Transmit As One Sample is turned *off*. In this case, the selected slices will simply be skipped, both when transmitting to the sampler and when creating MIDI Files. This will then create "gaps" in the sampler's keyboard map and a corresponding "gap" in the MIDI File.

Pitch to New Tempo

This setting is used when you want to make a loop fit a certain time span by changing its tuning (pitch) rather than by slicing it.

In the dark ages, before ReCycle, the only way to make a loop fit a certain tempo was to either use a Time Stretch program such as Steinberg's TimeBandit or WaveLab, or to change its tuning until it fitted an existing song. This feature lets you perform exactly that option, but in a more convenient way than by twiddling the knobs on your sampler.

Let's say you have set up a loop and have had ReCycle calculate the tempo of it to be 100 BPM (beats per minute). Your Song is in 110 beats per minute. So you type in 110 as your New Tempo, turn on "Pitch to New Tempo" and transmit the sample back to the sampler.

When you do this, ReCycle will reach into your sampler and raise the tuning setting for this particular sample by "0.65" semitones, so that when you press a key, the loop will fit 110 BPM exactly (no, you don't want to know about the mathematics behind this, trust us!).

More info on .

Stretch

This feature is used when you know you might want to lower the tempo of the loop in your MIDI 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 tail 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 slider is used to set the amount of stretch.
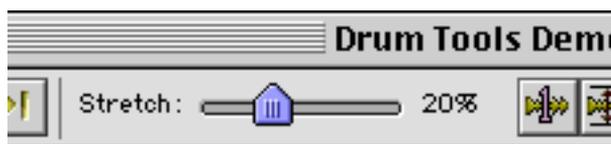
The percentage values tell you how much longer the entire sample will be after stretching. If you select the largest value (100%), for example, the slice will become twice its original length when transmitted to the sampler.

To decide how much stretch you need, try to make a rough estimate of how much you need to lower the tempo, in percent. If for example you know that you will need to lower the tempo by approximately 12%, select a stretch factor of 15%. If that doesn't work as intended, change the Stretch setting and re-transmit the slices.

● Please note that just setting a Stretch factor does nothing. It is only when you transmit the slices that the audio actually gets stretched.

Stretch is not Time Stretch!

Again, the Stretch feature doesn't lengthen the whole slice, it only adds a portion of sound to the end of it. You can use the "Open Slices in New Windows" feature to roughly try out the effect of stretching, as it would turn out in the sampler. But do not expect as good results from this, as when you transmit the loop to the sampler.

The Transmit dialog(s)

The top menu item on the Sampler menu changes name depending on which sampler or option you have selected. For external samplers it is called "Transmit to...". For internal samplers and other formats (see the online Sampler Supplements document) for which the program saves audio files on your computer's hard disk, the item is called "Export as...", and if the New Window option (see page 87) is selected the menu item is called "Open Slices in New Window".

There are three ways you can execute Transmit:

- **By clicking the Transmit button.**

The Transmit button.

- **By pressing [Command]+[T] (Mac) or [Cntrl]+[T] (Win).**

- **By selecting "Transmit to..." from the Sampler menu.**
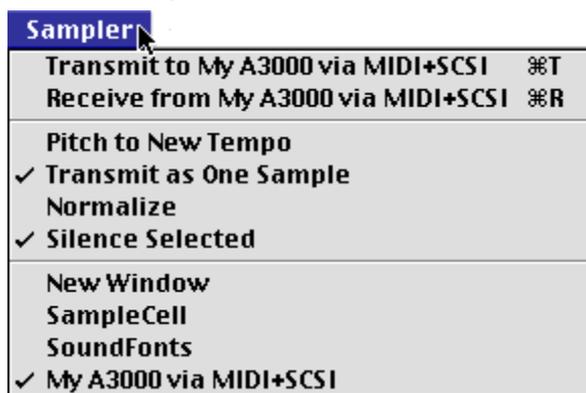
The Sampler menu when an A3000 is selected.

The Transmit dialog when a Yamaha A3000 is selected.

Exactly how the dialog looks depends on the selected Sampler, but there are a few standard items you will most often find there:

Sample rate

ReCycle can handle samples with any sample rate and can convert samples from any rate to any other.

Title shows inherent rate

When you Open or Receive a sample, its inherent sample rate is displayed in the window title.

A sample recorded at 44.1 kHz.

Available rates

In the transmit dialog, a number of sample rates can be selected from a pop-up. Exactly what options are available depends on the sampler selected.

- **If possible, the sample's inherent rate is suggested.**
If, for example, the sample was recorded at 48 kHz, this will be the suggested sample rate in the Transmit dialog.

- **If the sample's inherent rate is not supported by the sampler, the next higher rate is suggested.**

- **In addition to the above, a number of other sample rates can be selected from the pop-up in the Transmit dialog.**
If the sampler only handles a few sample rates, they can all be selected. If the sampler supports many rates, the most commonly used ones (or the ones closest to these) are available. Those most common rates are 11.025kHz, 22.05kHz, 32kHz, 44.1kHz and 48kHz.

When is sample rate conversion performed?

If you transmit, and the sample rate set in the Transmit dialog is not the same as in the window title (the sample's inherent rate), a sample rate conversion will be performed during the transmission.

When should I change from the suggested sample rate?

Lowering the sample rate will make the samples occupy less memory in the sampler, 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 sampler.

Templates

When ReCycle sends audio to your sampler it will put the samples it creates in a "container" which holds all the samples and their mapping on the keyboard. This "container" may be called a Program, Instrument, Patch or similar, all dependent on the naming used by the sampler manufacturer. For now, let's call it a Program.

There are a number of settings in the Program which may or may not be of importance to you.

- If the settings are *not* important to you, you don't need to use templates, you should use the Default option in the Transmit dialog. ReCycle will then simply create as simple a Program as possible. You can then change this Program's settings by using the controls on the sampler itself.
- If you *do* need special settings, you use Templates. You might for example want the first slice to appear on a certain key, you might want to have all samples play to a certain output, you may want the Program to receive on a certain MIDI Channel etc. Proceed as follows:

1. **On the sampler, manually create a Program with the desired settings.**
   Make sure the first sample in the Program's keyboard map is positioned where you want the first sample in the keyboard map created by ReCycle.

2. **Save this Program to disk (using the sampler's regular file saving functions), for later use, but make sure it still resides in the sampler's internal memory.**

3. **In the ReCycle Transmit dialog, activate this Template.**
   Exactly how this is done depends on the sampler. If it is external you can select the Program from a pop-up menu in the dialog. If ReCycle saves the data on to your computer's hard disk, then you select a disk file as your template.

4. **Transmit/Export the Program.**
   A new Program is created in the sampler. It will get all the settings of the Template. The first slice will appear on the same key as where the first sample in the Template was.

● If you use exactly the same name as the Template, the new Program will replace the Template.

Name

Using this field you can specify a name for the Programs you are about to create in the sampler.

- If the sampler is external you will be able to specify the name directly in the dialog. You will only be able to type in characters supported by the sampler, and the name will be truncated to fit the length of the names in the specific sampler.
- If the sampler reads files from your computer's hard disk, a regular file dialog will appear when you click one of the Export buttons (see below), allowing you to name the Program disk file.
- The actual slices that the Program contains will in both cases get names derived from the Program name, with a number added at the end. For example BigDrums#01, BigDrums#02, etc.

Transmit/Export

This button creates a Program and samples for it as described above, *without* creating any MIDI File.

MIDI File + Transmit/Export

This button will make two things happen :

- **Programs and samples are created as described above.**

- **A file dialog appears, which allows you to create a MIDI File on your computer's disk.**

The New Window option

One of the "samplers" on the sampler menu is called "New Window". When this is selected, the Transmit/Export item on the Sampler menu is called "Open Slices in New Windows".

When you "Open Slices in New Windows", you will get a preview of what would have been sent to the sampler. If Transmit As One Sample is turned off, each slice appears in its own window; if Silence Selected is turned on the selected slices will be silenced; if Stretch is set to anything but Off, each slice will be stretched etc (however, the Pitch to New Tempo option does not affect slices opened in new windows).

The audio you get in the new window(s) is the same as you would have been getting had you Opened or Received it. It can be used – as mentioned above – as a preview of what you will be getting in the sampler, or as a basis for a new piece of audio to Transmit or Export to disk (see below).

Here are few examples of what "Open Slices in New Windows" can be used for:

- To extract a shorter part from a long sample.
- When you use Silence Selected, to check that you have selected the right slices.
- To see exactly how much Normalizing does to a sample.

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Saving and Exporting

Saving ReCycle documents

If you have Opened an audio file and worked on the slices and other settings, you can save it as a ReCycle document.

- **Saving is done using regular "Save" and "Save As" methods.**

- **ReCycle files can be opened just like regular audio files (see page 45).**
  The only difference is that no analysis needs to be performed, since the analysis data is already included in the file.

- **On the PC, ReCycle files have the extension ".RCY".**

- **The ReCycle documents include the following:**
  The audio data.
  All the slice points and their status (locked, hidden etc).
  All Transmit options on the Sampler menu.
  The Stretch amount.
  The Sensitivity and Length settings.

  Saving a ReCycle file has a number of advantages:

- No analysis needs to be performed, which makes opening files in this format faster than other formats.
- In case you want to go back and adjust the slice points after transmitting, no work has to be redone if you have saved the file as a ReCycle document.

Export Sound

This item on the File menu allows you to save all the audio between the Left and Right Locator to disk. These files can then be brought into any audio editing or playback program that supports any of ReCycle's possible export file formats.

The same logic applies as when Transmitting. This means for example that if Transmit As One Sample is turned off, each slice will become a separate file (see page 72 for more info).

File Type and Sample Rate

The Export Sound dialog contains two pop-up menus not found in the Save dialog.

- File type. See page 47 for details.
- Sample rate. See page 77 for more info.

The audio files created by ReCycle are always mono, 16 bit.

Exporting requires memory, see page 71.

Export to REX format (for Cubase VST)

The ReCycle Export (REX) file is a special file format which makes it possible to use ReCycled files in other programs, without the need of a sampler. ReCycle Export files have the following properties:

- The files contain both the actual audio, the Slice information and the tempo.
- On the PC, ReCycle Export files have the extension ".REX".
- ReCycle Export files cannot be opened in ReCycle.

To ReCycle a file for use in Cubase VST or other programs capable of reading REX files, proceed as follows:

● This text describes how to use REX files with Cubase VST. If you are using another REX-compatible program, see its documentation for details.

1. **Locate the file on disk and open it in ReCycle.**
   This can be a file recorded in Cubase, or a file of any other origin.

2. **Set up the slices, length, time signature and sampler options as desired.**
   A typical application would be "slicing for tempo changes", see page 89.

3. **Select "Export to ReCycle! REX file", from the File menu.**

4. **Select a sample rate for the exported file.**
   Make sure to select a sample rate that is supported by the destination program.

5. **Specify a location and name for the file and save it.**

6. **Switch over to Cubase VST.**
   You need version 3.02 or later on Mac, or version 3.55 or later on PC.

7. **Select an Audio Track where you want to import the file and set the Left Locator at the position where you want the file to appear.**
Depending on the type and complexity of the audio, you may want to set the Audio Track to channel "Any". See the Cubase VST documentation for details.

8. **Select "Import ReCycle file", from the File menu.**

9. **Locate the ReCycle export file you just saved, and open it.**
Now the following happens:

• The file is added to the Pool.
• A number of Segments are created for the file, each one corresponding to a slice in Recycle.
• A Part which will play these Segments is automatically created on the active Track, starting at the Left Locator position.
Now you can play back the ReCycled file in any tempo, as if using a sampler. You can also edit it in detail, quantize, etc.

• **If you need to re-import the file into the Arrangement, drag the file item from the Pool to the Arrangement, just as any other file.**
A new Part is then created.

● There are a number of additional factors to be aware of when using REX files in VST. See the VST manual for details!

Exporting MIDI Files

There are two ways to create MIDI Files with ReCycle:

- By selecting "Export Groove MIDI File" from the File menu.
- By clicking the MIDI File+Transmit/Export button in the Transmit/Export dialog (see).

The MIDI Files created are identical in both cases. So why use one or the other? Well, normally you will create MIDI Files as a part of the Transmission process (by clicking "MIDI File+Transmit/Export" in the Transmit dialog). But if you *only* want to create a MIDI File (for example when using ReCycle to create "groove maps"), use Export Groove MIDI File.

In either case you are prompted with a regular File dialog where you can specify a name and location for the file.

ReCycle always creates MIDI Files of type 1. However, they only contain one Track plus a Tempo Track.

Templates and MIDI Files

- If you create a MIDI File from the Transmit dialog, the position of the first sample in the Template affects the transposition of the MIDI File (so that the file plays the right samples).
- If you use "Export Groove MIDI File" the first note is always C1.

"Transmit As One Sample" and MIDI Files

- If Transmit As One Sample is turned *off*, the MIDI File will contain a number of short events, each triggering a slice in the sampler, to recreate the loop. This is the mode to use if you want to create a "groove map".
- If Transmit As One Sample is turned *on*, there will only be one long event which triggers the entire sample.

"Pitch to New Tempo" and MIDI Files

- If Pitch to New Tempo is turned *off*, the MIDI File will get the tempo calculated by ReCycle (displayed in the "Tempo" field in the ReCycle window).
- If Pitch to New Tempo is turned *on*, the MIDI File will have the Tempo set in the "New Tempo" field in the ReCycle window.

"Silence Selected" and MIDI Files

Silence Selected only affects the MIDI File if Transmit As One Sample is turned off, as described on . In this case, there will be "missing" events in the File, namely those which were set to be silenced (the selected ones).

"Stretch" and MIDI Files

The Stretch setting has no effect on the MIDI Files created by ReCycle.

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Example Applications

Which Samples will work?

All. But although ReCycle does a very intelligent analysis of the sample to find the individual "hits" or "sounds" in it, the sample has to meet some basic criteria to enable the automatic algorithm to find all the individual sounds:

- Each sound in the sample must have *some* kind of perceivable attack. You will for example run into problems with legato playing on a flute.
- The sample must be adequately recorded. Weak sounds recorded at very low volumes might not get all the slices they should.
- The program might have problems with sounds drowned in smearing effects, like extremely thick chorus or short repeating delays.

Please remember that you always have the possibility to add slices "manually".

Using Normalize to increase "readability"

If you have a loop that was very poorly recorded, you might be able to get a better recognition by normalizing it before trying to find slices:

1. **Set Sensitivity to 0.**

2. **Drag the loop points all the way to the left and right, respectively.**

3. **Set Bars to any value but 0.**

4. **Set up the Transmit options as follows:**

Transmit As One Sample	On
Normalize	On
Silence Selected	Off
Stretch	Off
Pitch To New Tempo	Doesn't matter

5. **Select "New Window" as Sampler and then select "Open Slices in New Window".**
   You will now have a normalized copy of the original file. Raise Sensitivity to check if the recognition got better.

The Simple Trim

The most basic thing you can do with ReCycle is to set a good loop point for a sample and then retransmit it to the Sampler, without any slicing or processing.

1. **Open or Receive the sample.**

2. **Raise the Sensitivity until a large number of slices appear.**

3. **Activate playback and move the loop points until you find a good loop.**

4. **Make sure the loops starts on a downbeat (sometimes you might decide to let the loop start somewhere else but we just want to make sure this doesn't happen by accident).**

5. **Set the Time Signature and length (Bars/Beats) to whatever the length of the loop.**
   The Tempo gets calculated.

6. **Set up the Sampler Options like this:**

Transmit As One Sample	On
Normalize	Off
Silence Selected	Off
Stretch	Off
Pitch to New Tempo	Off

7. **Select your sampler from the Sampler menu and select Transmit/Export or MIDI File+Transmit/Export.**
   The MIDI File you get will contain one event which plays the entire loop at the calculated tempo.

8. **Load the MIDI File into your sequencer and set things up so that it plays the correct "Program" in your sampler.**

9. **Repeat the MIDI File in your sequencer, as needed.**

Slicing for Tempo Changes

1. **Open or Receive the sample.**

2. **Raise the Sensitivity Slider until a lot of slices appear.**

3. **Activate playback and move the loop points until you find a good loop.**

4. **Work on the slices with the Hide and Lock tools until you have one slice per sound in the loop.**
   It is important that no slice plays two consecutive sounds, so audition them one at a time to check.

5. **Set the Time Signature and length (Bars/Beats) to whatever the length of the loop.**
   The Tempo is calculated.

6. **Set up the Sampler Options like this:**

Transmit As One Sample	Off
Normalize	Off
Silence Selected	Off
Stretch	If you plan to lower the tempo, set this as suggested on page 75.
Pitch to New Tempo	Off

7. **Select your sampler from the Sampler menu and select MIDI File+Transmit/Export.**
   The slices are transmitted. The MIDI File you get will contain a number of notes which play back the Loop (the slices in the sampler) in its original shape.

8. **Set things up so that the sequencer plays the new "Program" in your sampler.**

9. **Load the MIDI File into your sequencer and play it back. Try varying the tempo.**

10. **Repeat the MIDI File in your sequencer, as needed.**

Slicing for Editing

If your main goal is to edit the loop, rather than changing its tempo, you may take a slightly different approach compared with slicing for tempo changes:

1. Set things up as in the example above.

2. Work on the slices with the Hide and Lock tools until you have approximately one slice per eighth note, sixteenth note or whatever you need, depending on how detailed an edit you want to do.
If a slice plays more than one sound, please remember that you won't be able to edit these two sounds independently. There are occasions when this will be perfectly OK though, for example when you just want to shift the order of the beats around in the loop.

3. Proceed as from point 5 in the previous example.

4. In the MIDI Sequencer, open the MIDI File for editing. When you move slices around, make sure they keep their relative position to the beats, eighth notes etc, to maintain the integrity of the timing in the groove.

Using Silence Selected

Even if you don't want to cut up a loop in slices, you can still use ReCycle to send different sounds in the loop to different outputs. The example below assumes you only want to pick out one sound, but the same technique can of course be applied to separate as many sounds as you need.

1. **Open or Receive the sample.**

2. **Raise the Sensitivity until a lot of slices appear.**

3. **Activate playback and move the loop points until you find a good loop.**

4. **Set the Time Signature and length (Bars/Beats) to whatever the length of the loop.**
   The Tempo gets calculated.

5. **Set up the Sampler Options like this:**

Transmit As One Sample	On
Normalize	Off
Silence Selected	On
Stretch	Off
Pitch to New Tempo	As you like

6. **Work on the slices until they play one sound each when you click them.**

7. **Select all slice markers which play the same sound, for example the snare drum.**

8. **If you wish to, select New Window as your "sampler" and transmit the loop to a new window. Play it back to check that all snares are silent.**

9. **Select your actual Sampler from the sampler menu and select Transmit/Export or MIDI File+Transmit/Export.**
   The MIDI File you get will contain one event which plays the entire loop at the calculated tempo.

10. **With the selection still set up as before, select "Invert Selection" from the Edit menu.**
    Now all sounds that are not snares are selected.

11. **Transmit the sample again to the sampler, but under another name.**

12. **Set up the sampler and sequencer so that the two samples are played back at the same time. Also set up the sounds to one output each. They will together recreate the loop as it was, but the snare will be separated to its own output, which means that you have independent control over its volume, that you can EQ it separately, that you can add effects to the snare only, etc.**

Extracting a Groove

If you think about it, you will realise that all ReCycle MIDI Files are actually timing maps of how the drums were played in the loop. Many sequencer programs have the ability to load MIDI Files and apply their timing to the sequenced parts. The terminology used is "Match Quantize" or "Groove".

If you use a ReCycle MIDI File as a "groove template", you can make your sequenced parts play back with the timing of the drum loop. For this, you could of course use the MIDI File you get when Transmitting slices to the sampler. But, you can also create a timing file only, using "Save Groove MIDI File". Proceed as follows:

1. **Open or Receive the sample.**

2. **Raise the Sensitivity Slider until a lot of slices appear.**

3. **Work on the slices with the Hide and Lock tools until you have one slice per eighth note or sixteenth note.**
   In many situations there will be no sound on a certain eighth or sixteenth note. There's not much you can do about this. You can copy another MIDI note in the sequencer later, or insert a new one "by hand". You can also add a slice manually, at any position.

4. **Set the Time Signature and length (Bars/Beats) to whatever the length of the loop.**
   The Tempo gets calculated.

5. **Set up the Sampler Options like this:**

Transmit As One Sample	Off
Normalize	Doesn't matter
Silence Selected	Off
Stretch	Doesn't matter
Pitch To New Tempo	Doesn't matter

6. **Select Save Groove MIDI File from the File menu and save the MIDI File.**

7. **If you use Steinberg Cubase VST, applying the MIDI File to existing music is a piece of cake. Just Import the MIDI File into an Arrangement and use Match Quantize to drag the groove onto a MIDI recording.**

Quantizing Audio

If you have sliced a groove or other recording, you can apply quantizing to it in the sequencer, if you like.

● When Transmitting, use at least a small amount of Stretch, to avoid the gaps between slices that might otherwise occur.

Please note that if you have two sliced loops in a Cubase Arrangement, applying the timing of one of them to the other is really easy. Just use the Match Quantize tool to drag one of the Parts on top of the other (see the Cubase manual for details).

If you don't like what you get, Undo the Quantize, and try the other way around, for example.

Using New Tempo

If you have a Song which plays in a different Tempo from that of the loop, you can of course slice the loop in order to change its tempo without altering the pitch. This is described under the earlier heading "Slicing for Tempo Changes". However, if you'd rather not slice the loop but instead use the *tuning setting* in your sampler to make the loop fit a certain tempo, proceed as follows:

Set everything up as in the previous example, but before selecting Transmit/Export, perform the following steps:

1. **Turn on "Pitch to New Tempo" on the Sampler menu.**

2. **Click in the "New Tempo" field in the ReCycle window, type in the desired Tempo and press [Return].**

3. **Transmit to sampler and create a MIDI File.**
   The sample will be tuned to match the tempo.

Extracting Sounds

This can be used to extract single sounds (snares, hi-hats etc) from a loop or other recording). It can also be very useful if you have recorded more than one drum loop into a file and want to save each one as a separate file.

1. **Open or Receive the sample.**

2. **Raise the Sensitivity Slider until the desired number of slices appears.**

3. **Work on the slices with the Hide and Lock tools until you get the sounds you want when you audition.**
   In the case of the "multi-loop" file outlined above, this would mean one slice per loop.

4. **Set the Loop point to enclose the first and last sound you want from the loop.**
   This might mean unwanted sounds are transmitted, but these can always be deleted in the sampler. Or you can use "Silence Selected" to prevent some slices from being sent.

5. **Set "Bars" to any value but zero.**

6. **Set up the Sampler Options like this:**

Transmit As One Sample	Off
Normalize	On
Silence Selected	Off or On (see point 4 above)
Stretch	Probably Off, but you *could* use Stretch to lengthen the sounds and give them a more natural decay.
Pitch to New Tempo	Off

7. **Select your Sampler from the Sampler menu and select Transmit/Export.**
   The slices get transmitted. Alternatively, you can use Export Sound to save each slice as a file.

Using Loops with unusual length or cutting

Sometimes you don't have a full bar of a loop. Set up the loop and the Bars and Beats fields for as much as you have. Then slice the loop. Finally, use your sequencer's editing capabilities, on the MIDI notes, to recreate the missing parts.

You will also encounter situations where the best loop doesn't really start on a downbeat. It might for example happen that you get the best loop when you position the Left and Right Locator on the last quarter note of two consecutive measures.

If this happens, you can fix it in Cubase, by cutting the last quarter note of the MIDI Part and pasting it in at the beginning, to position the downbeat correctly. If you don't want to slice the loop completely, at least allow a slice at the downbeat (the Lock tool is ideal for this). Then, repositioning that last quarter note to the beginning of the loop will be very easy.

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