

Osmosis

Akai S1000 & S3000 Conversion Utility



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Chapter 1: Introduction

Osmosis is a Macintosh and PC utility for converting Akai S1000 and S3000 formatted disk to Unity DS-1 or Sample Cell formats. Osmosis reads the disk with the CD-ROM you already have and displays the disk file hierarchy in a single window. Also, the entire disk directory can be saved to a text file. No more tiny screens and confusing user interfaces! Use all those Akai disks you have sitting around with the modern computer-based sampling tools. It makes the perfect companion for Unity DS-1 or Sample Cell.

Features include:

- Akai S1000 & S3000 CD-ROM conversion
- Save programs as Unity DS-1 or Sample Cell
- Save samples as Unity DS-1, AIFF, Sound Designer 2¹, or wave
- Batch conversion of multiple programs & samples at once
- Audition samples before conversion
- Drag & drop export
- Save disk directory to text file
- Works on any CD-ROM equipped Macintosh
- Works on any ATAPI or SCSI CD-ROM equipped PC

How does it work? Computers get confused by different format CD-ROMs other than what they're used to. PCs deal with PC formatted CD-ROMs, and Macs deal with both Mac and PC formatted CD-ROMs. Stick an Akai disk into your computer without Osmosis, and your computer won't know what to do with it. It doesn't know how to 'speak Akai'.

Well, we've scratched our heads a bit and figured out how to coerce (pummel?) these computers to both recognize the disk, as well as read the programs and samples on them. Along the way, we've added some cool features such as being able to audition the samples within Osmosis before you've converted them, as well as drag & drop programs and samples to your desktop. You'll be using those old Akai disks within minutes.

About BitHeadz

BitHeadz, Inc. is a new music software company specializing in software synthesizers. Our two flagship products are the Retro AS-1 analog synthesizer, and the Unity DS-1 sampling synthesizer. BitHeadz believes that the faster computers become, and the more sophisticated their operating systems are, the less musicians will depend on the dedicated music hardware of the past. The computer **is** your studio. The revolution has already started. Hop on board...

¹ Macintosh only.
Osmosis Manual

Chapter 2: Getting Started

Basic Concepts

Osmosis allows your computer to read Akai formatted CD-ROMs. Macintosh users won't have to deal with dialogs like this anymore:



What does the *&##\$ computer mean 'Do you want to initialize the disk?'. Of **course** not! You just want to read the CD-ROM. Your boat-anchor of an Akai can, why can't your supposedly more modern Mac? Grumbling under your breath, you're forced to click the 'Eject' button, and the computer politely returns the disk to you. Thanks a lot, you say.

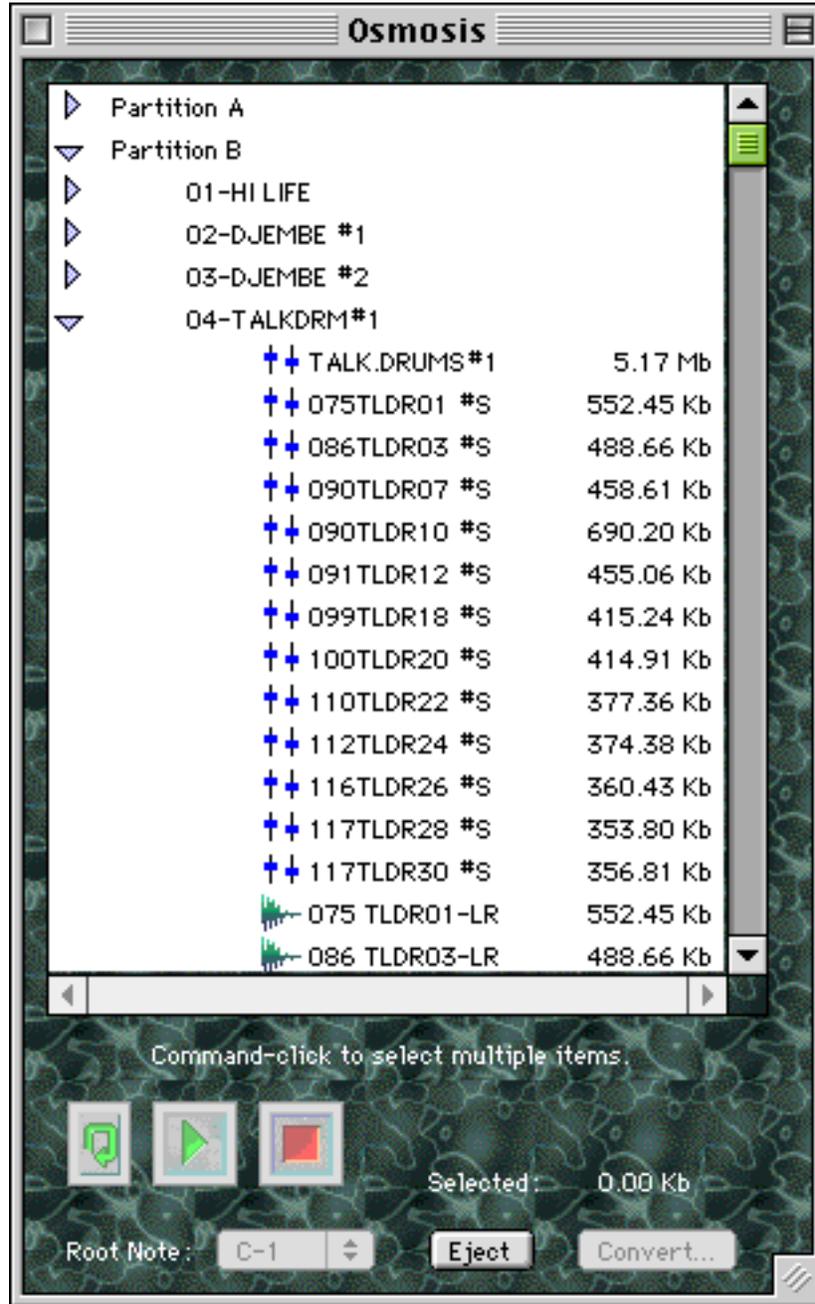
PC users won't have to wonder if the CD-ROM is working properly. Thoughts of IRQs, registry entries, and reinstalling Windows flash through your mind. You've got the cold sweats now. The last time you had to deal with that kind of stuff, your computer wasn't back in working condition for weeks. But don't panic, there **is** a solution.

With Osmosis, the disk hierarchy is simply displayed in the main Osmosis window. Using a layout like the Macintosh Finder, or Windows 95/98 Explorer, the disk list shows what is on the Akai formatted CD-ROM. There are three levels to the file hierarchy on an Akai disk:

- Partitions
- Volumes
- Programs & Samples

Each lower level of the file hierarchy is indented more in the disk list in the Osmosis window. Below, we're looking at Volume 04-TALKDRM#1 of Partition B of a particular Akai CD-ROM.

of a particular Akai CD-ROM.



From the main window, you can audition samples, select programs and samples, and convert your selections. For programs, you can convert them into two different formats:

- Unity DS-1 files
- Sample Cell 2 instrument files with associated AIFF files

For samples, you can convert them into four different formats:

- Unity DS-1 files
- AIFF files
- Sound Designer 2 files²
- wave files

Once you've converted to AIFF, Sound Designer 2, or wave files, you will find that most every Macintosh or PC sound application will have access to your Akai samples. Instant new sound library!

Installation Macintosh

Make sure you have your 'Osmosis 1.0 CD-ROM' and registration card before you start the installation.

Step 1

Insert the 'Osmosis 1.0 CD-ROM' in any available CD-ROM drive connected to your Macintosh.

Step 2

Double-click the installer. It is titled 'Osmosis 1.0 Installer'.

Step 3

You will see the startup screen. Press Continue.

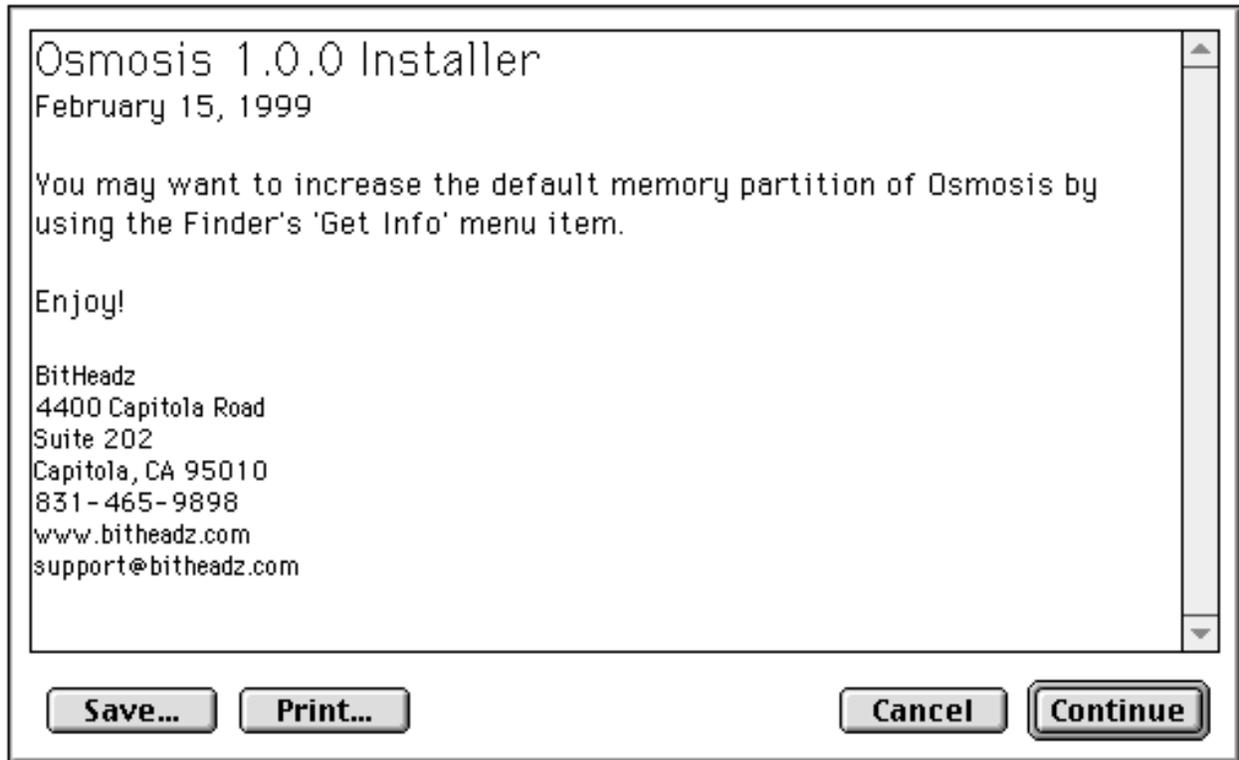


Step 4

The next screen is the startup text. The latest installation notes will be on this screen (that is, it may be a little different from what you see below). Press Continue to go

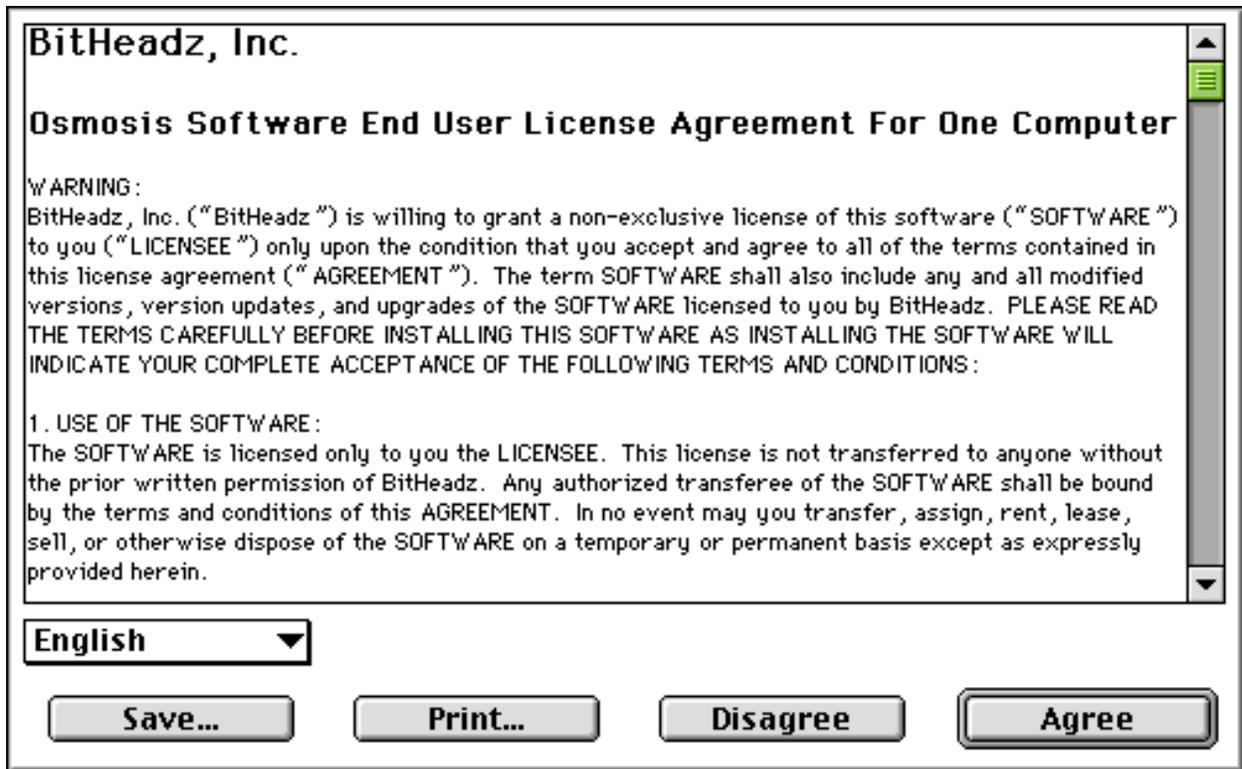
² Macintosh only.

on with the installation.



Step 5

Next is the software license agreement. Make sure you read every word very carefully. (Our lawyers made us say that. Believe it or not, we actually pay them for advice like that!)



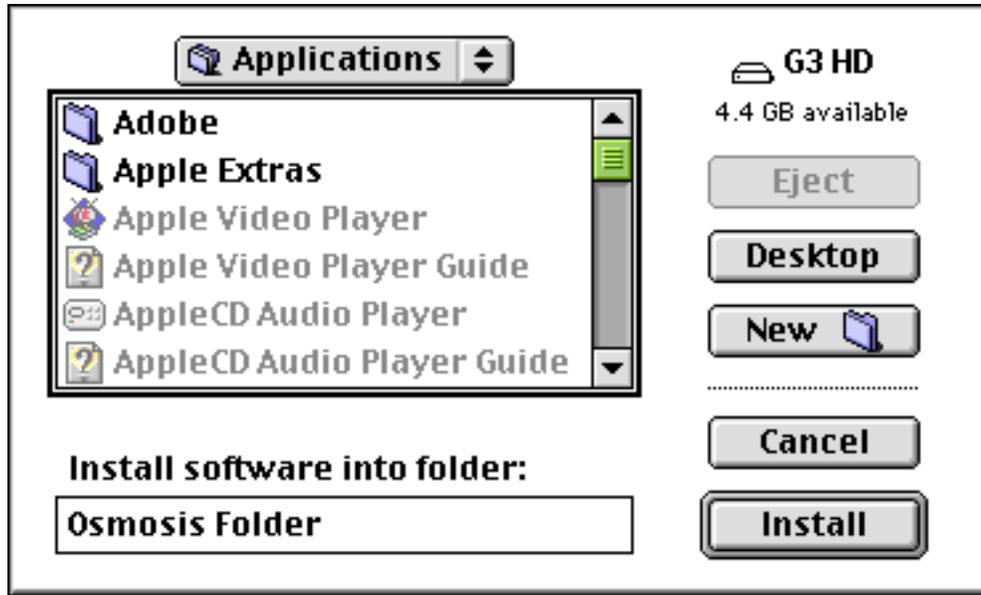
Step 6

You're getting close. The next screen is the password screen. Enter the password on your registration card (not the registration number!) exactly as it is printed. Make sure you get the upper and lower case correct. Press OK when you're done.



Step 7

The last screen is the selection of where you want to install the software. A folder will be created with the name and location you specify.



That's it. You're done.

The installer places the files in the following locations:

Osmosis	User Specified Folder
Unity DS-1 Objects Library	User Specified Folder
Release Notes	User Specified Folder
Installation Log	User Specified Folder
This Documentation	User Specified Folder

Unity DS-1 users should update the DS-1 to at least version 1.2.1 for compatibility with the DS-1 files output from Osmosis. There is a free updater available on the BitHeadz website: www.bitheadz.com.

Installation PC

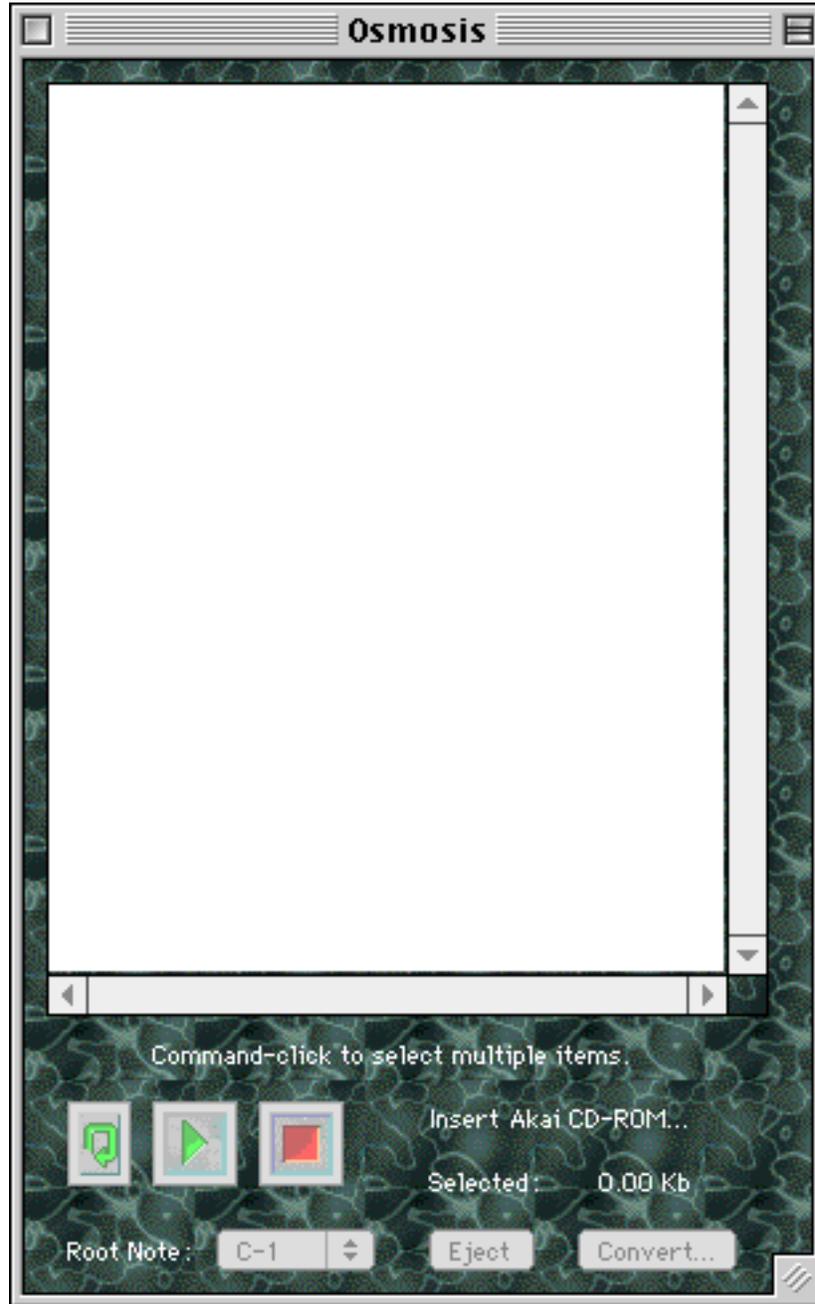
The installer places the files in the following locations:

Osmosis	User Specified Folder
Unity DS-1 Objects Library	User Specified Folder
Release Notes	User Specified Folder
Installation Log	User Specified Folder
This Documentation	User Specified Folder

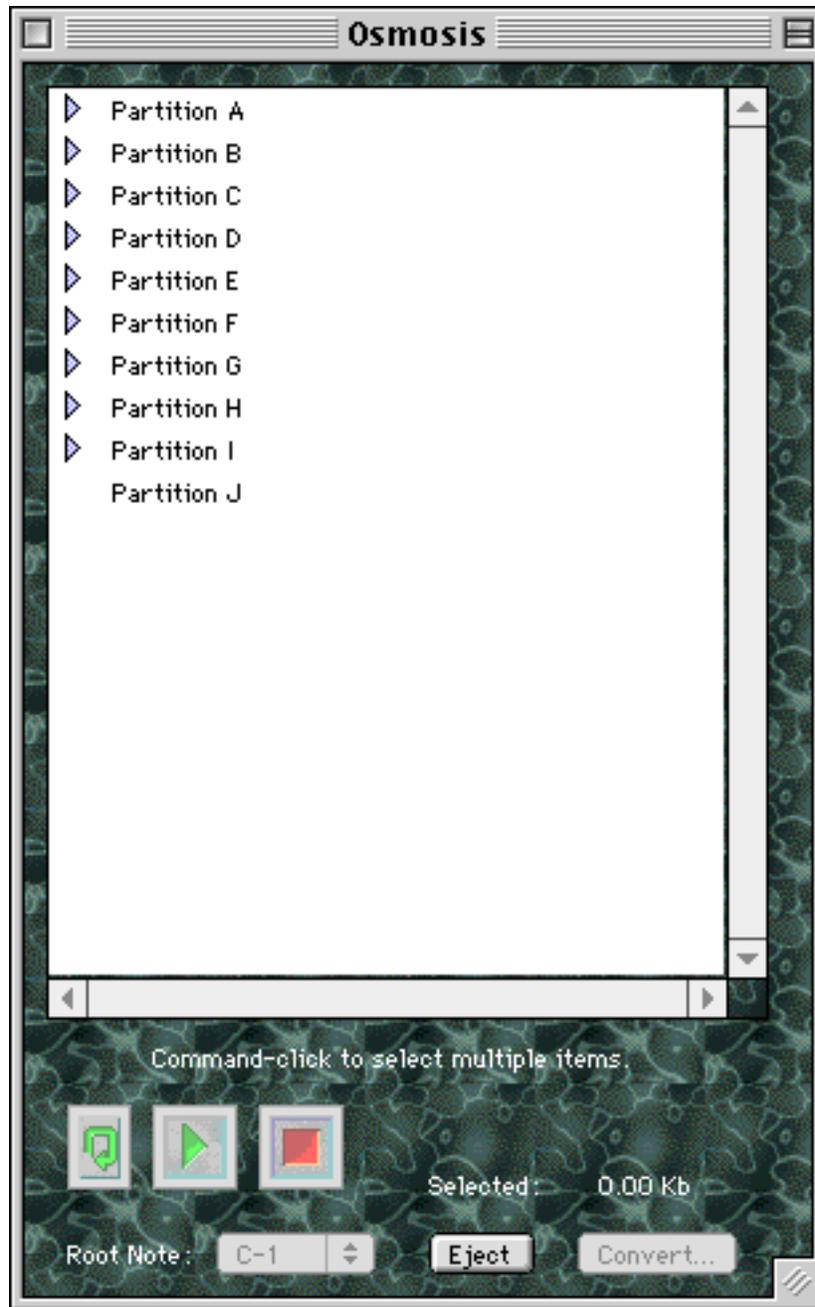
Verify the Installation

To verify that everything has been installed correctly, you might want to try an Akai conversion now. First open Osmosis, by double clicking the Osmosis icon in the Finder. You should see the main window. Since you have not inserted the

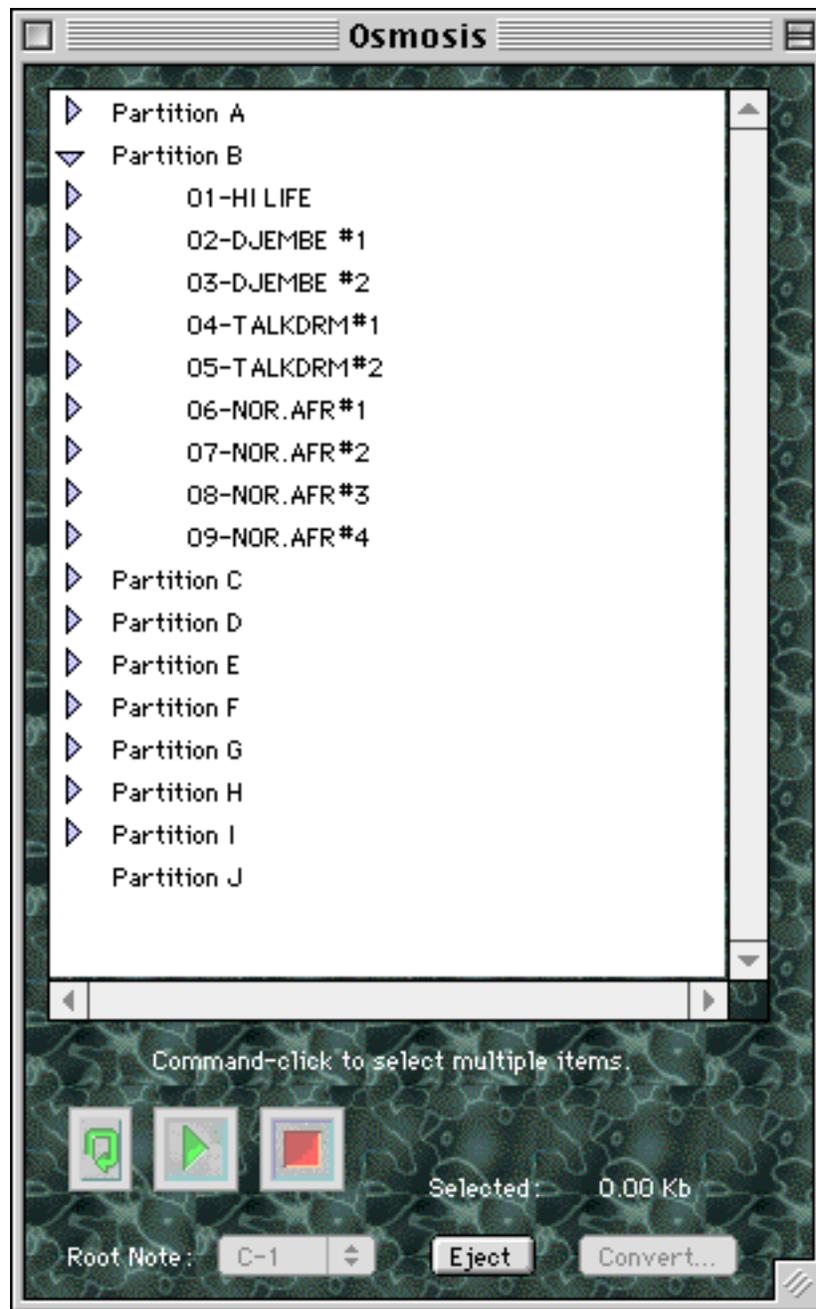
Akai CD-ROM yet, the disk list should be empty.



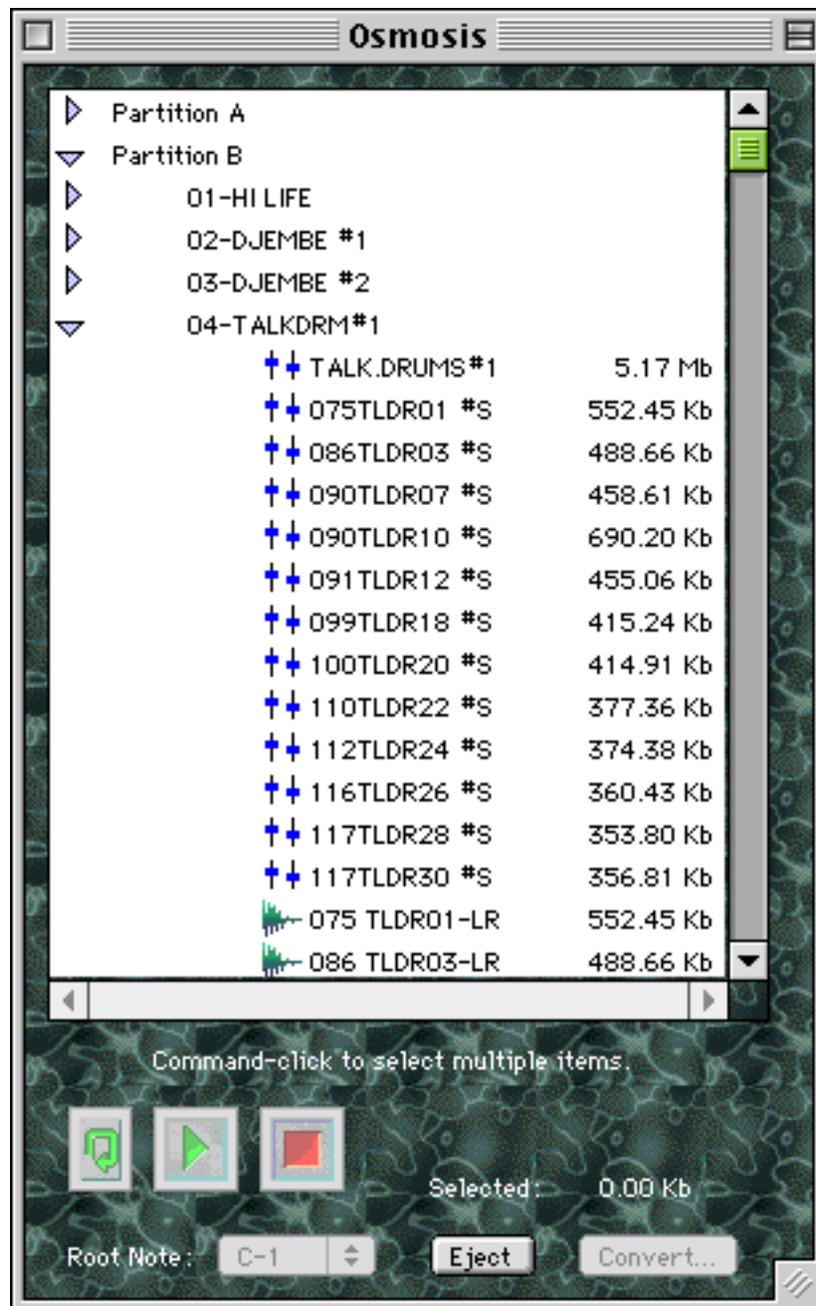
Now, insert the Akai S1000 or S3000 CD-ROM. Once the disk is recognized, you should see the list of all the partitions (in Akai parlance). You will see just the partitions, since you have not opened any of them up yet.



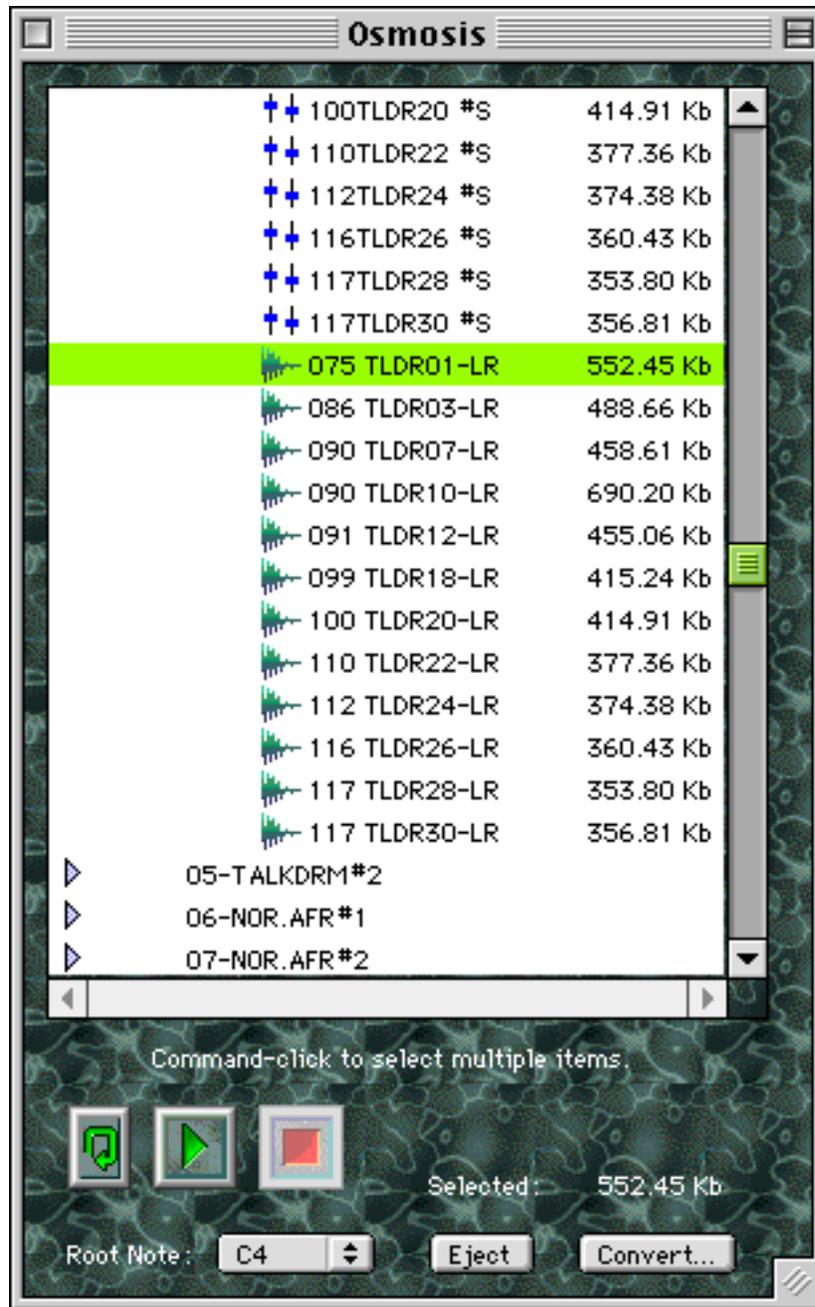
Expand a partition with the mouse by clicking on the little triangle to the left of it. You will now see a list of volumes within that partition.



Do the same for a volume. Click on the little triangle to the left of a volume to expand it. This will show all of the programs and samples in the volume.



Programs have the two little blue sliders next to the left. Samples have the little green waveform to the left. The sizes are shown next to them. Select a sample with the mouse. It should now be highlighted.



You can audition the selected sample by clicking on the play button in the lower left corner of the window (the play button is between the loop and stop buttons). You should hear the sample³.

Now try to convert the sample. Press the 'Convert...' button in the lower right corner of the window. Select where you want the file to go, and press 'OK'. You're done! You should see the file you've just created in the location you specified.

³ Using the SoundManager on the Macintosh, the wave driver on the PC.
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Pretty simple, eh?

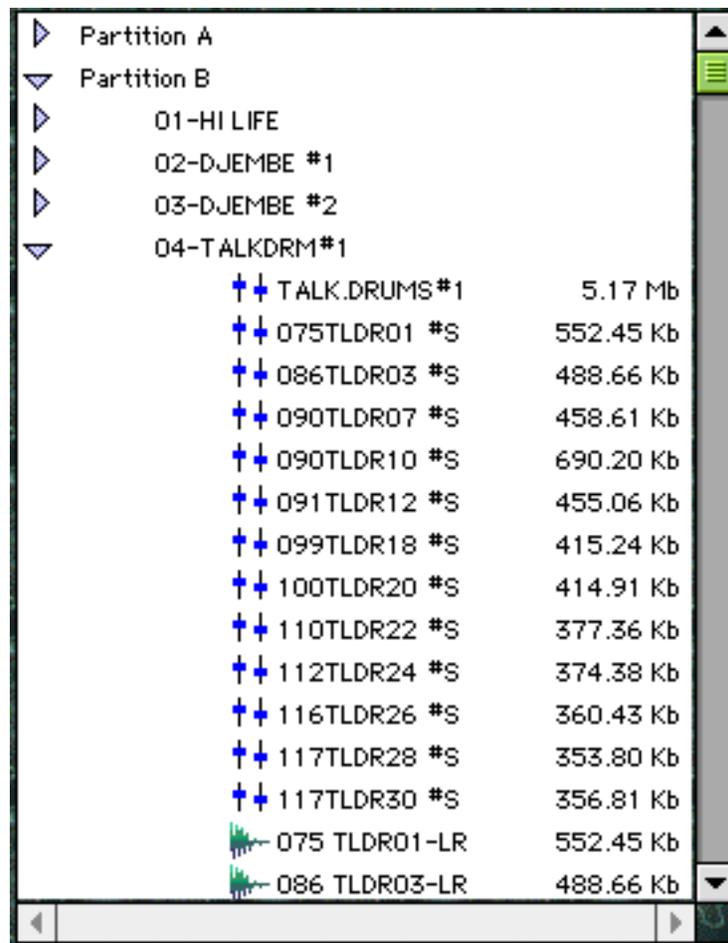
Chapter 3: Osmosis Window

You've already seen the usage of the Osmosis window, but here are the details.

The window can be resized with the size box in the lower right of the window. The window grows vertically, but is fixed horizontally.

Disk List

The main view in the window is the disk list which shows the file hierarchy of the Akai CD-ROM. The items all the way at the left of the list are partitions. Next to them are the volumes. The items at the right are programs or samples. Programs have the little blue sliders to their left, while samples have a little green waveform to their left.



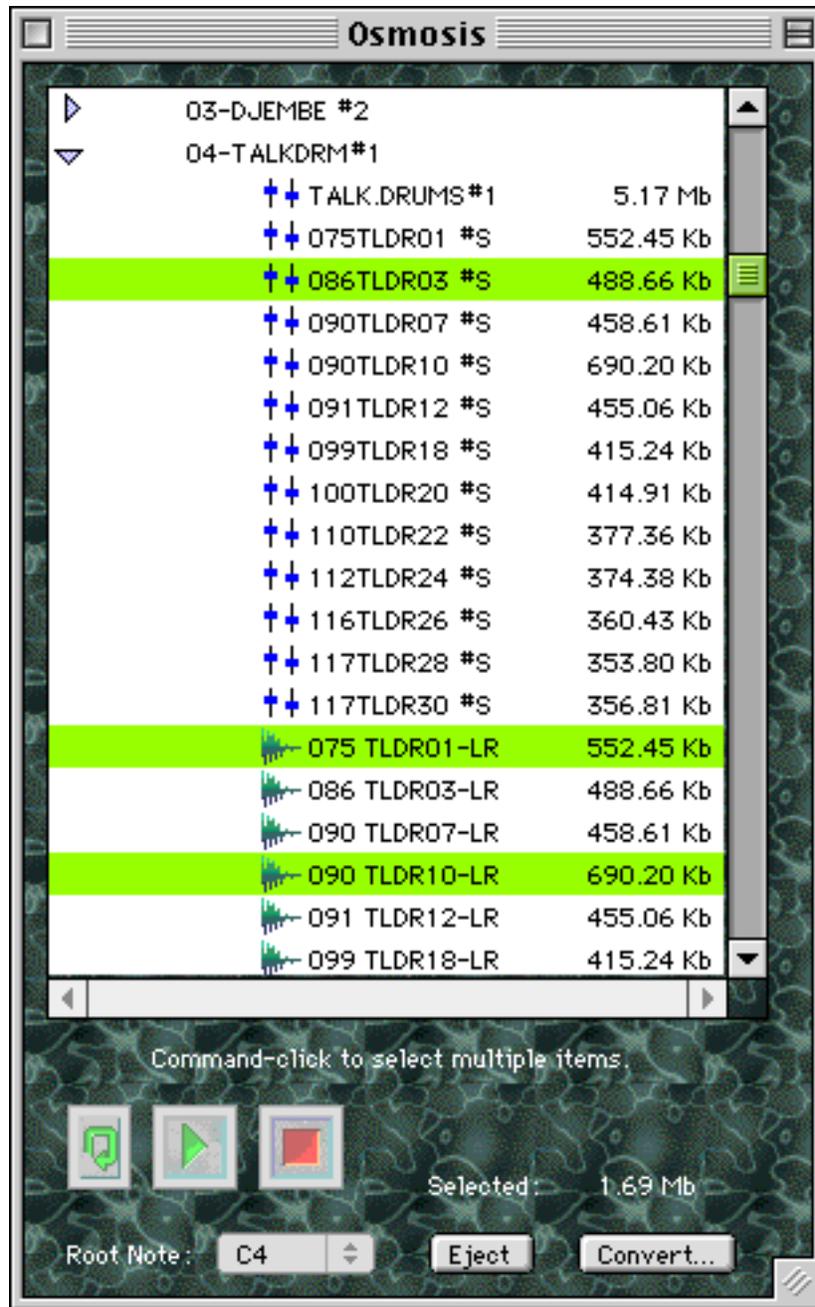
Partitions can be expanded and collapsed by clicking on the little triangle to the left of the name. Similarly, volumes can be expanded and collapsed with their little triangles, but keep in mind that expanding a volume may require accessing the Akai

CD-ROM, so it may take a little time. The watch cursor is brought up as necessary.

If you run out of memory in Osmosis on a Macintosh, you will see a dialog warning you. You can alleviate this problem by quitting Osmosis, and changing Finder memory size. The default memory size is 16 Mb, but you can give as much memory as you want depending on your machine. Select Osmosis in the Finder, and choose 'Get Info' from the File menu.



For the Macintosh, multiple items can be selected by command-clicking. You can also drag-click to select adjacent items. When multiple items are selected, the total selection size is displayed in the bottom right of the window. Double clicking on samples will audition the sample.



The home, end, and page up & down keys are supported.

The cursor keys are also supported. Up and down step through the list. The left cursor collapses the sub-objects below it. That is, if the item selected is a partition, the left cursor will collapse the partition so that the volumes for the partition are hidden. Similarly, for volumes, the left cursor will collapse the volume so that the programs and samples are hidden. The right cursor expands both partitions and volumes. Again, expanding a volume may take a little time as the CD-ROM is read.

Audition Buttons

The audition buttons allow you to listen to samples before they are converted to disk files. These buttons are enabled when **only one** sample is selected.



The left-most button is the loop button. This is a toggle button, meaning that you can audition samples with or without the loop. The default is without. To listen with the loop, press the loop button.

The middle button is the play button. This starts the audition. The audition will continue until either the end of the sample or the stop button is pressed.

The right button is the stop button. Use this button to stop an audition before it ends, or if the loop button is on.

You can also use the space bar of the QWERTY keyboard to play and stop the audition.

The audition uses the Sound Manager (on the Macintosh) or the wave driver (on the PC) to play the samples. You must have the Sound Manager or wave driver configured properly in order for the audition to work. On the Macintosh, you can verify that the Sound Manager is functioning properly by using 'SimpleSound' in the Apple menu to play back a system sound. On the PC, you can use 'MediaPlayer' to do the same.

Flashing Prompt

When there is no Akai CD-ROM inserted, a prompt flashes to insert a disk.



Once the Akai CD-ROM has been inserted, the prompt goes away.

Selected

The size of the currently selected programs and samples is totalled up and displayed in the bottom right of the window. Note that the program size takes into account the samples it uses.



Root Note

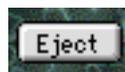
When only a single sample is selected, the root note is enabled. This menu can be used to change the root note of the sample.



Note that the program has a tuning information for how the sample is to be used within the context of the key map. Changing the root note does not affect the key map, but it does affect the root note for the converted sample files.

Eject Button

Use the eject button to eject the current Akai CD-ROM.



When Osmosis is quit, it will automatically eject the CD-ROM.

Convert Button

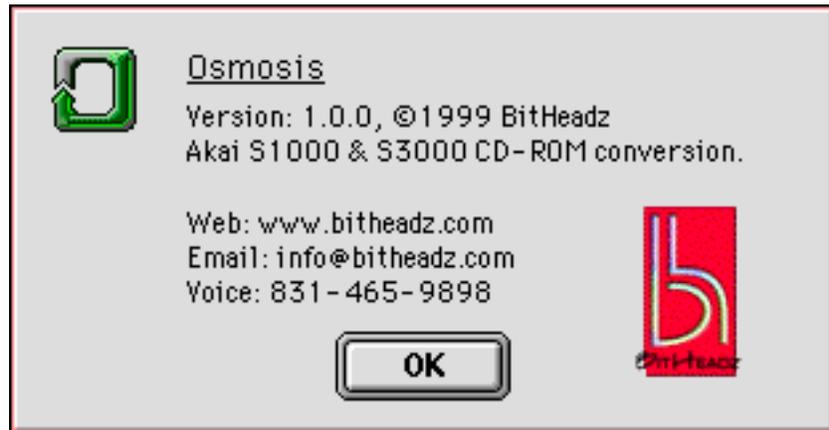
The convert button starts the conversion process to disk. Multiple items can be converted at once.



Chapter 4: Osmosis Menus

Apple

“About Osmosis” brings up the about dialog. It contains the version of Osmosis that you are using, as well as contact information for BitHeadz.



File



Close

Close the window and quit Osmosis.

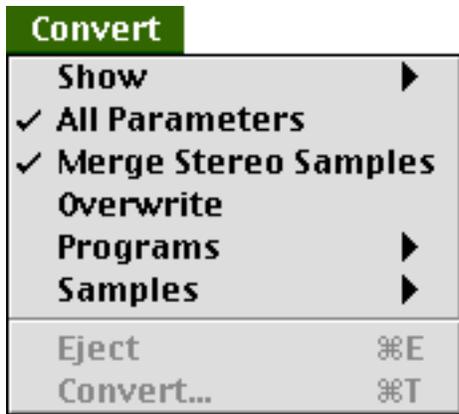
Save As Text

Prompt for an output text file, and save the Akai listing. All of the partitions, volumes, programs, and samples with their lengths are written.

Quit

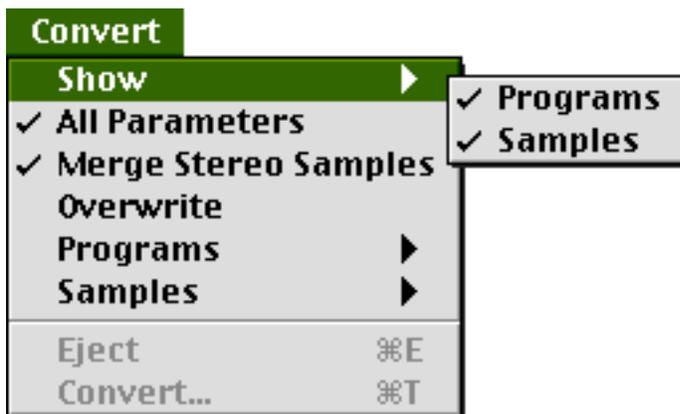
Close the window and quit Osmosis.

Convert



Show

The show hierarchical menu allows you to select what you want displayed in the disk list, either the programs, the samples, or both.



All Parameters

When 'All Parameters' is checked, the Akai envelopes and lfos are converted. If not, default envelopes and lfos are used. See 'Appendix A' for the details of which Akai parameters are converted.

Merge Stereo Samples

When checked, merge samples that end in 'L' and 'R' together as a stereo pair. The DS-1 requires that stereo samples be merged when using a single oscillator only.

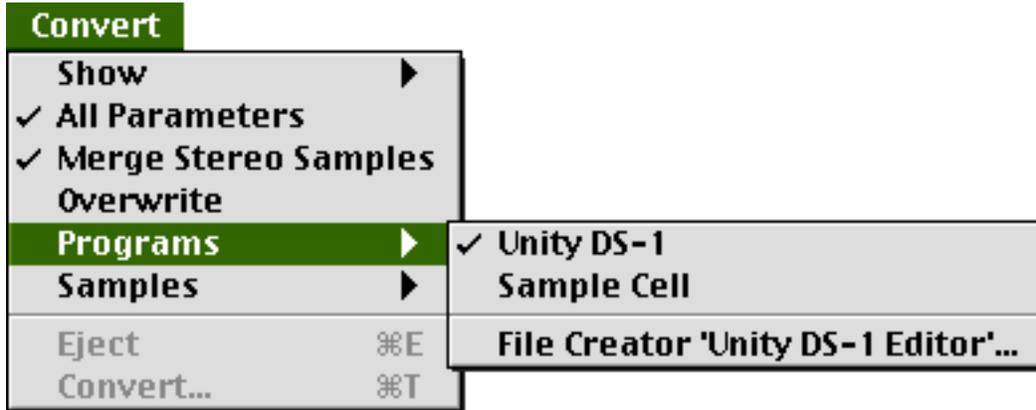
Overwrite

When checked, do not ask the user about overwriting conversion files. If not checked, ask the user when a file needs to be overwritten in the conversion process.

Programs

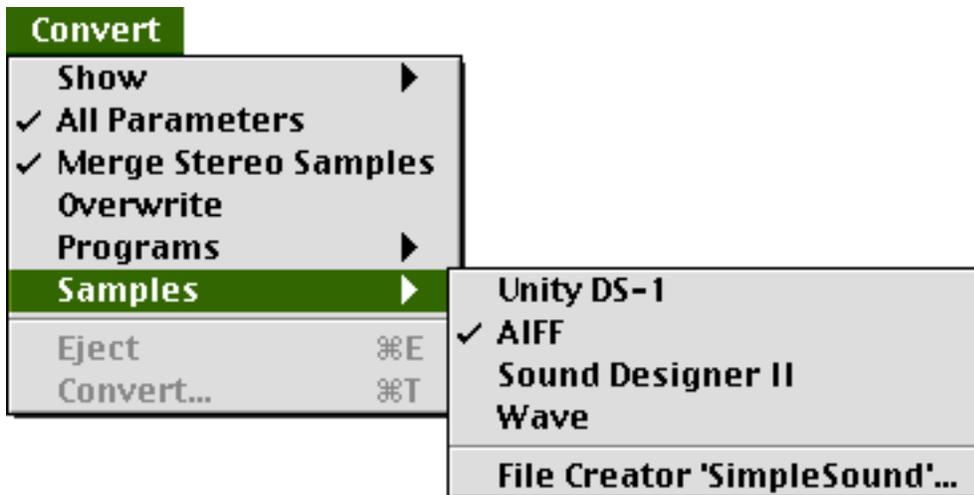
Select what type of program conversion to do. In addition, on the Macintosh, you can select the file creator for the exported program files. Normally, the file creator

will be 'Unity DS-1 Editor' for DS-1 files, and 'SampleCell' for SampleCell files.



Samples

Select what type of sample conversion to do. In addition, on the Macintosh, you can select the file creator for the converted files.



Eject

Eject the Akai CD-ROM. This is the same as the Eject button in the Osmosis window.

Convert

Convert the selected programs and samples. This is the same as the Convert button in the Osmosis window.

Chapter 5: Osmosis Conversion

There are three outputs from Osmosis:

- converted program files
- converted sample files
- save as text disk directory

Button or Menu Conversion

Convert Akai programs or samples using the 'Convert' button or 'Convert' menu item.

- insert Akai disk into CD-ROM drive
- expand the partition by clicking on the little triangle to the left of the partition name
- expand the volume by clicking on the little triangle to the left of the volume name
- select one or more programs or samples in the volume
- press the 'Convert' button in the Osmosis window, or use 'Convert' in the 'Convert' menu
- in the disk dialog, select where you want the files to go
- press OK

Drag & Drop Conversion

An easier way to convert files one at a time is to use drag & drop. You can drag & drop to any location in the Finder (Macintosh) or desktop (PC).

- insert Akai disk into CD-ROM drive
- expand the partition by clicking on the little triangle to the left of the partition name
- expand the volume by clicking on the little triangle to the left of the volume name
- select one or more programs or samples in the volume
- drag the selection to the Finder/desktop location you want the files to go

Save As Text

This allows you to save the disk directory to a text file. The entire contents of the CD-ROM are scanned, and then output to a text file. This is extremely useful for cataloging disks, or for finding specific samples on CDs.

All of the partitions, volumes, programs, and samples with their length are listed.

Appendix A: Akai Conversion

The following Akai parameters are converted into DS-1 format as follows:

<u>Akai Parameter</u>	<u>DS-1 Parameter</u>
Sample loop relative	Sample loop end
Sample loop length	Sample loop start
Sample length	Sample length
Sample original pitch	Sample root note
Sample rate	Sample rate
Key group low note	Zone note low
Key group high note	Zone note high
Zone velocity range low	Zone switch low
Zone velocity range high	Zone switch high
Program tune offset	Zone root note, fine tune
Keygroup fixed detune	Zone root note, fine tune

When 'All Parameters' is enabled, more parameters are converted:

<u>Akai Parameter</u>	<u>DS-1 Parameter</u>
Program octave shift	Program transpose
Program level	Program volume
Program pan	Program pan
Program pitchbend range	Program pitchbend range
Program lfo rate	Vibrato lfo rate
Program mod wheel lfo depth	Vibrato lfo routing amount
Program lfo delay	Vibrato lfo delay
Keygroup filter frequency	Filter1 cutoff
Keygroup env2 attack	Filter env attack
Keygroup env2 decay	Filter env decay
Keygroup env2 sustain	Filter env sustain level
Keygroup env2 release	Filter env release
Keygroup env1 attack	Amplitude env attack
Keygroup env1 decay	Amplitude env decay
Keygroup env1 sustain	Amplitude env sustain level
Keygroup env1 release	Amplitude env release
Keygroup velocity to env1 attack	Velocity to env attack amount

Appendix B: Unity DS-1 Files

Compatible with Unity DS-1 Version 1.2.1 or higher.

DS-1 files contain lists of:

- programs
- multisamples
- samples

Osmosis outputs both programs and samples to the same DS-1 format files. Akai programs are converted to DS-1 programs and multisamples in DS-1-speak.

When Osmosis converts Akai programs and samples, it creates a single DS-1 file per volume with a (possibly) multiple programs, (possibly) multiple multisamples, and (possibly) multiple samples.

Drag & drop conversion creates a single DS-1 file with the single program and referenced multisamples and samples.

Appendix C: Sample Cell Files

Compatible with Sample Cell Version 2.

Sample Cell instrument files contain pointers to the individual sample files. When converting programs, Osmosis converts the referenced samples to AIFF (Macintosh) or wave (PC) format. Thus, when a single Akai program is converted, multiple Macintosh or PC files are created. It is usually a good idea to create a folder with the name of the program first, and then convert the Akai program into the folder so all the files stay together.

Osmosis can output either AIFF or Sound Designer II sample files along with the SampleCell instrument file. If the convert samples selection is Sound Designer II, Sound Designer II files will be written. Otherwise, AIFF sample files will be written along with the Sample Cell instrument file.

There is a maximum of 60 zones and samples per SampleCell file. Osmosis uses the first 60 zones and samples when creating SampleCell instruments. Also keep in mind that there is a maximum of 32 Mb on the Sample Cell card, so that instruments larger than that will not be able to be completely loaded.

Appendix D: Save As Text Files

The text files have tabs before the three main columns: partitions, volumes, and programs/samples. An example disk directory file created with the 'Save As Text' menu item is:

```
Partition A:
  Volume 'VLN DUO M-S':
    Program: 'VIOLINDUODXF'
    Program: 'VIOLINDUO-MF'
    Program: 'VIOLINDUO-F'
    Program: 'VIOLINDUOSLW'
    Program: 'VIOLINDUOSFS'
    Program: 'VIOLINDUOSL2'
    Program: 'VLNDUOIATTD2'
    Program: 'VLNDUOSTACTO'
    Program: 'VLN DUODX ER'
    Program: 'VLN D1L D2R'
    Sample: 'VLN DUOD1 G2' Length=134479
    Sample: 'VLN DUOD1 A2' Length=123227
    Sample: 'VLN DUOD1 B2' Length=152869
    Sample: 'VLN DUOD1 C3' Length=133969
    Sample: 'VLN DUOD1 D3' Length=152869
    Sample: 'VLN DUOD1 E3' Length=147769
    Sample: 'VLN DUOD1 F3' Length=158869
    Sample: 'VLN DUOD1 G3' Length=152969
    Sample: 'VLN DUOD1 A3' Length=154069
    Sample: 'VLN DUOD1 B3' Length=132969
    Sample: 'VLN DUOD1 C4' Length=143969
    Sample: 'VLN DUOD1 D4' Length=151869
    Sample: 'VLN DUOD1 E4' Length=153069
    Sample: 'VLN DUOD1 F4' Length=152738
    Sample: 'VLN DUOD1 G4' Length=157069
    Sample: 'VLN DUOD1 A4' Length=151969
    Sample: 'VLN DUOD1 B4' Length=158079
    Sample: 'VLN DUOD1 C5' Length=143839
    Sample: 'VLN DUOD1 D5' Length=164069
    Sample: 'VLN DUOD1 E5' Length=140969
    Sample: 'VLN DUOD1 F5' Length=141169
    Sample: 'VLN DUOD1 G5' Length=143069
    Sample: 'VLN DUOD2 G2' Length=126079
    Sample: 'VLN DUOD2 A2' Length=120969
    Sample: 'VLN DUOD2 B2' Length=130109
    Sample: 'VLN DUOD2 C3' Length=125089
    Sample: 'VLN DUOD2 D3' Length=124119
    Sample: 'VLN DUOD2 E3' Length=124139
    Sample: 'VLN DUOD2 F3' Length=124969
    Sample: 'VLN DUOD2 G3' Length=118029
    Sample: 'VLN DUOD2 A3' Length=98209
    Sample: 'VLN DUOD2 B3' Length=103995
    Sample: 'VLN DUOD2 C4' Length=120001
    Sample: 'VLN DUOD2 D4' Length=118929
    .
    .
    .
```

