TWL-System NITRO-SoundMaker

User's Guide

2008/05/30

Confidential

These coded instructions, statements, and computer programs contain proprietary information of Nintendo and/or its licensed developers and are protected by national and international copyright laws. They may not be disclosed to third parties or copied or duplicated in any form, in whole or in part, without the prior written consent of Nintendo.

Table of Contents

Figures

Tables

Revision History

Revision Date	Description
2008/05/30	Made revisions in line with name change (updating from NITRO-System to TWL-System).
2007/11/26	• Added support for disabling envelope release. There is now an option (Disable) for disabling the envelope release phase. Regions or instruments with "Disable" specified will disable the envelope release processing at note-off, and will play until the end of the wave file. • Fixed a bug in the display of the Bank window's reference wave file path. A bug was fixed in which the path of the wave file referenced by the regions currently selected on the SampleMap would fail to display in the lower part of the window. • Fixed a bug related to the **All Region** check box. When different envelopes had been configured for multiple regions in the percussion list, a bug would prevent the **All Region** check box on the Instrument Parameter Panel from being unselected. This has been fixed. • Fixed a bug in the Undo (**Ctrl+Z**) operation applied to region allocation. When Undo (**Ctrl+Z**) was used repeatedly to undo region allocation in the SampleMap, a bug would cause an application error to occur. This has been fixed.
2007/03/14	Added a description for section 7.7 Specify Options and Convert. You can perform conversions where the file type to be converted has been specified. Added a description for section 7.8 Automatic Processing Before and After Conversion. User-specified batch files can be automatically executed before or after conversion. Added a note about the key split label to section 5.3.1 Creating Instruments. Added a description of the shortcut menu feature activated by right-clicking the mouse.
2006/03/15	Revised the explanation regarding how to open the Bank Window.
2006/01/18	Deleted the explanation of "Automatic Bank Creation" (not yet implemented), which runs when creating a new sequence.
2005/12/19	Initial version.

1 Introduction

1.1 About NITRO-SoundMaker

NITRO-SoundMaker is an application that supports the creation of NITRO-Composer sound data.

This manual describes each of the main features included in NITRO-SoundMaker.

- Editing sound sets (SARC files)

- Editing bank files (BNK files)

  Edit sound archive definition files (SARC files) and bank files (BNK files) used in a text-based production environment.

  The SARC files are referred to as "sound sets" in NITRO-SoundMaker.

  Because SARC and BNK files are compatible under the text environment previously provided, projects that are already midway through creation under the existing text environment can be used.

- Creating sound data

  Project management is performed using sound projects (SPRJ files), which have been recently added to NITRO-SoundMaker.

  Multiple sound sets (SARC files) can be registered for a sound project.

  This allows for creation of a single sound archive from multiple SARC files that were created by different developers.

- Checking the sound of an instrument using PC emulation

  NITRO-SoundMaker supports the playback of instruments using PC emulation. This allows most sounds to be checked in an environment where actual development hardware is not present.

  Excluding some hardware-dependent features such as heap operations and variations in sound quality due to ADPCM compression, the emulation faithfully reproduces NITRO-Composer operations on a PC.

  The PC emulation can also play back MIDI signals connected to the PC.

- Checking sounds on the actual hardware by starting NITRO-Player

  NITRO-SoundMaker allows you to check sound archives by starting NITRO-Player from inside NITRO-SoundMaker.

1.2 About This Manual

This manual describes the basic features of NITRO-SoundMaker that will help you create sound data for NITRO-Composer.

For information on checking sounds on the actual hardware, see the NITRO-Player manual.

For information on creating sound data, the sound archives, and each text file, see the *NITRO-Composer Manual*.

1.3 Preparations

NITRO-SoundMaker requires the use of Microsoft .NET Framework 1.1 or later.

NITRO-SoundMaker has been tested to run on Microsoft Windows XP Service Pack 2 with .NET Framework 1.1 as well as on Windows 2000 Service Pack 4 with .NET Framework 1.1.

2 Basic Operations

Previous sound data that was created using text files and a command line converter can be loaded into NITRO SoundMaker for editing.

This section assumes that sound data for NITRO-Composer was created using NITRO-SoundMaker without working from existing files.

Note: This section also includes notes on loading projects that originated as text files.

2.1 Starting NITRO-SoundMaker

Run `$TwlSystem/tools/NitroSoundMaker/NITRO-SoundMaker.exe` to launch the application.

Figure 2-1 NITRO-SoundMaker.exe

2.2 Initial Settings File

During initial startup, NITRO-SoundMaker creates an initial settings file in the `$TwlSystem/tools/NitroSoundMaker` folder. The filename is `NITRO-SoundMaker.xml`.

NITRO-SoundMaker saves various operational settings used while working with SoundMaker in this file. If the initial settings file is deleted, SoundMaker will recreate the file using default settings the next time it is started. If you need to reinstall SoundMaker, we recommend you create a backup copy of this initial settings file first.

2.3 Using a Sample Project

The sample projects provided allow you to quickly sample the features of NITRO-SoundMaker. The samples consist of very small sound projects in which all sound settings required to create sound archives have been set.

2.3.1 Using Sample Projects

Sample projects can be found within the sample folder, which is located in NITRO-SoundMaker's installation folder. From the **File** menu, select **Open** and specify the `sound_data.spri` file.

2.4 Creating New Sound Projects

First, create a NITRO-SoundMaker project file (SPRJ file).

More than one sound set (SARC file) can be created for a sound project. It is also possible to use a sound archive definition file (SARC file) created under a conventional text environment as a sound set without any modification.

2.4.1 New Sound Project Creation Wizard

1. From the **File** menu select **New sound project**.

Figure 2-2 New Sound Project
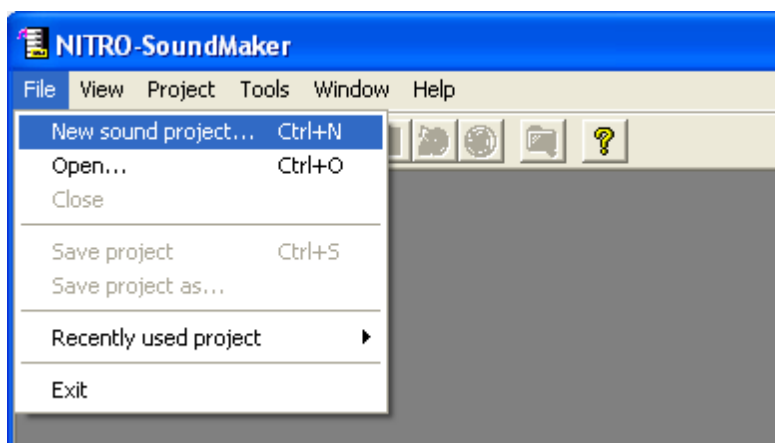
2. Enter a path and project name for the new project, and then click **Next**.

The sound project name is used as filename for the sound project and the sound archive at the time of conversion.

Figure 2-3 New Project Creation Wizard 1
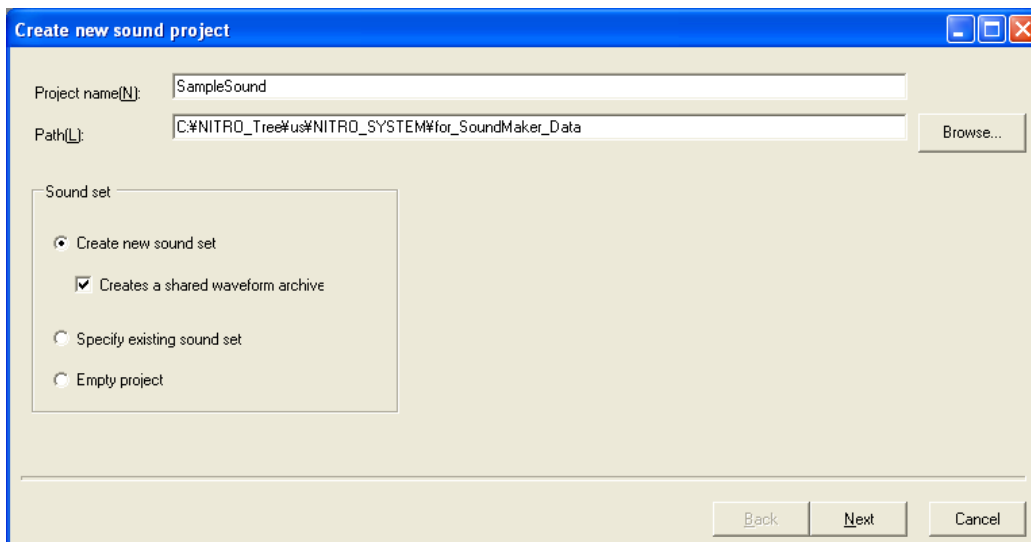
- To create a new sound set at the same time, select **Create new sound set**.

- To load an existing sound set (`.sarc` file), select **Specify existing sound set** and specify the SARC file.

- To create an empty sound project that contains no sound sets, select **Empty project**.

Selecting the **Creates a shared waveform archive** check box will create a new waveform archive with a single load flag attached when the project is created. In this case, specify a label name and filename (path) for the wave archive to add.

Note: A wave archive is a file that is required by almost all sound sets. Later processes can be simplified by creating wave archives when creating a new project.

3. Click **Next**.

Figure 2-4 New Sound Project Creation Wizard 2
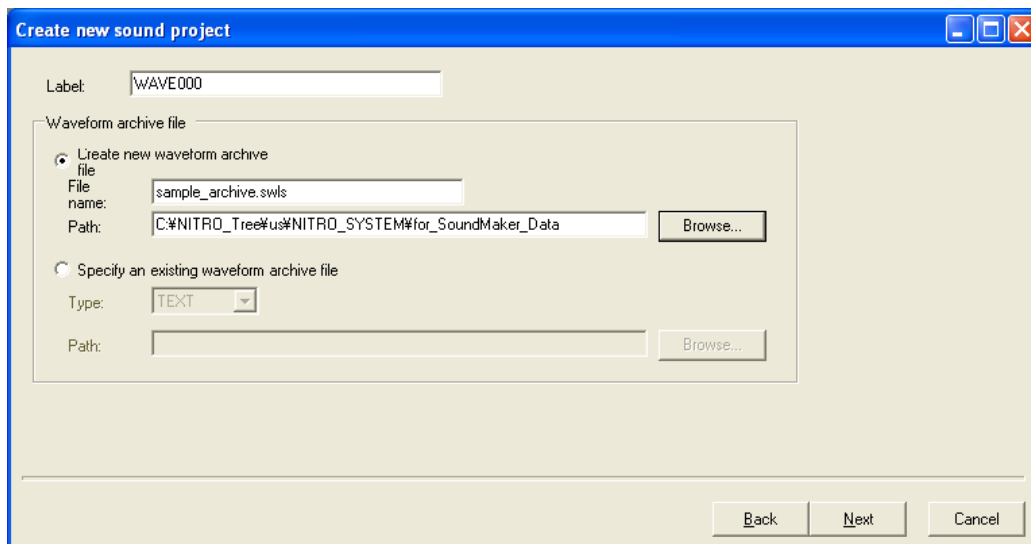
Figure 2-5 New Sound Project Creation Wizard 3

4. When you are finished, click **Done** to create the project.

2.5 Role of Various Windows

2.5.1 Main Window

After starting NITRO-SoundMaker, the main window appears. The main window is the NITRO-SoundMaker work area.

Figure 2-6 Main Window
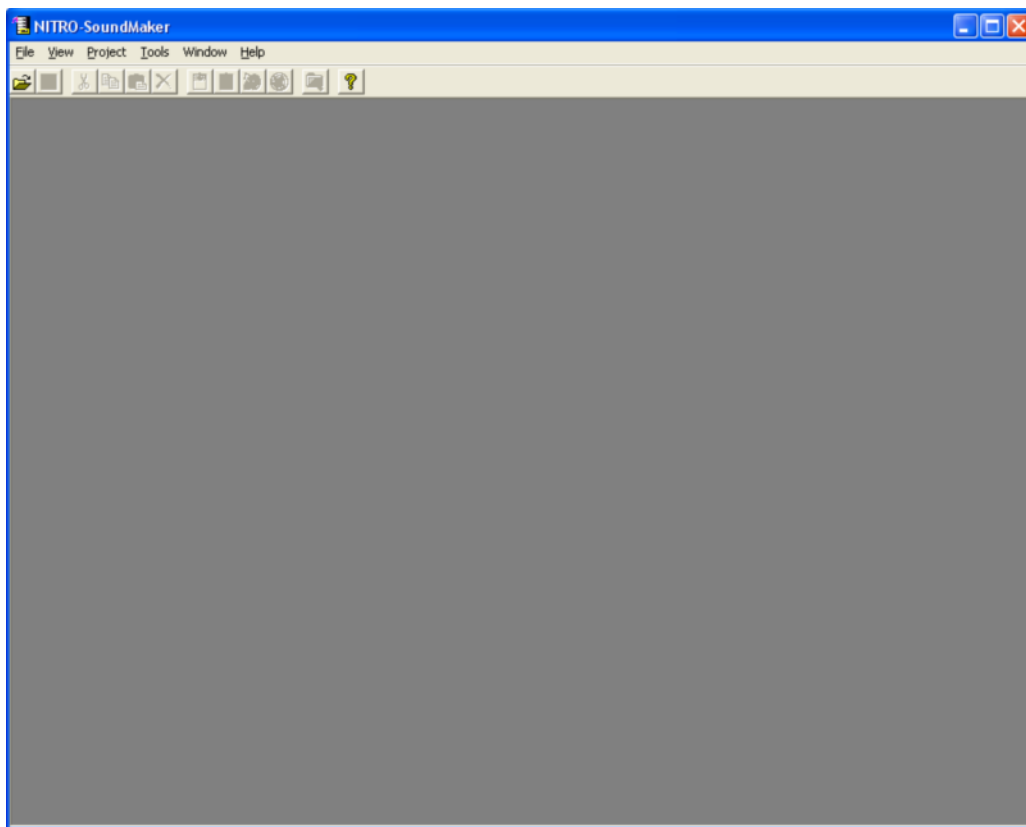
2.5.2   Project Window

After loading a sound project in NITRO-SoundMaker, the project window appears. Sound sets registered as projects are edited in this window.

For a detailed description on editing sound sets, see Chapter 3 Project Window.

Figure 2-7 Project Window
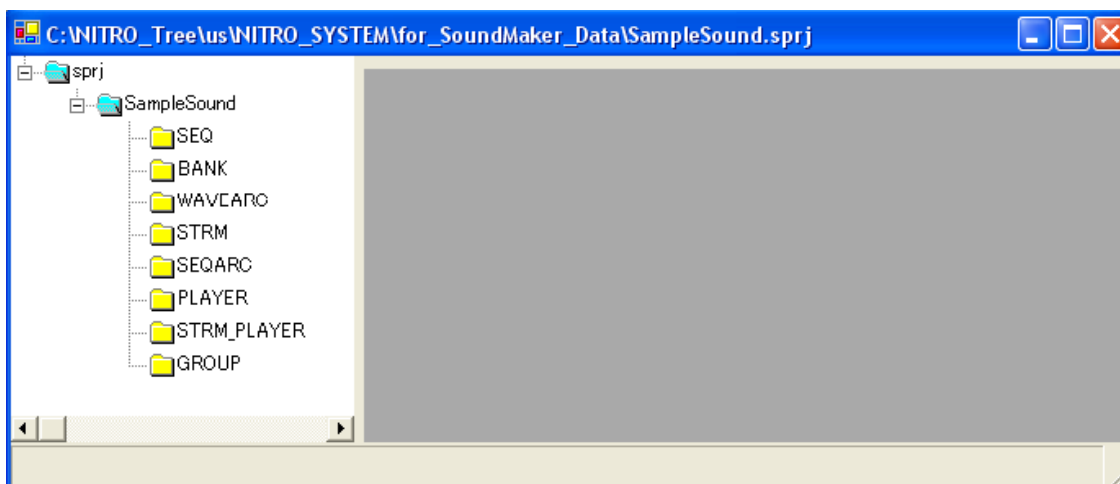
2.5.3 Bank Window

This Bank window is used to edit a bank file in the project window.

For a detailed description on editing a bank file, see Chapter 4 Bank Window.

2.6 Data Conversion

To convert sound data for use with NITRO-Composer, select **Convert** from the **Project** menu. The sound data will be created in the same directory as the sound project, using the sound project name.

Note: When a project created in text format is already loaded using NITRO-SoundMaker:

The sound project file and sound set files of an existing project created in text format may be located in different directories. To load this type of project file into NITRO-SoundMaker, specify the path names and filenames to be referenced via `#include` from the text sequence.

Files such as SBDL files referenced via `#include` from a text sequence archive (MUS file) are created using the sound project name for the sound project file path rather than the SARC file path.

2.7 Checking Sounds

2.7.1 Checking Sounds Using PC Emulation

You can play back an instrument that has been created using PC emulation. PSG and NOISE can also be played back through emulation.

Note: PC emulation-based playback is only supported for instruments.

2.7.2 Starting NITRO-Player and Checking Sounds on Actual Hardware

NITRO-Player can be started from the **Project** menu.

Use NITRO-Player to listen to a sound archive.

Figure 2-8 Project Menu
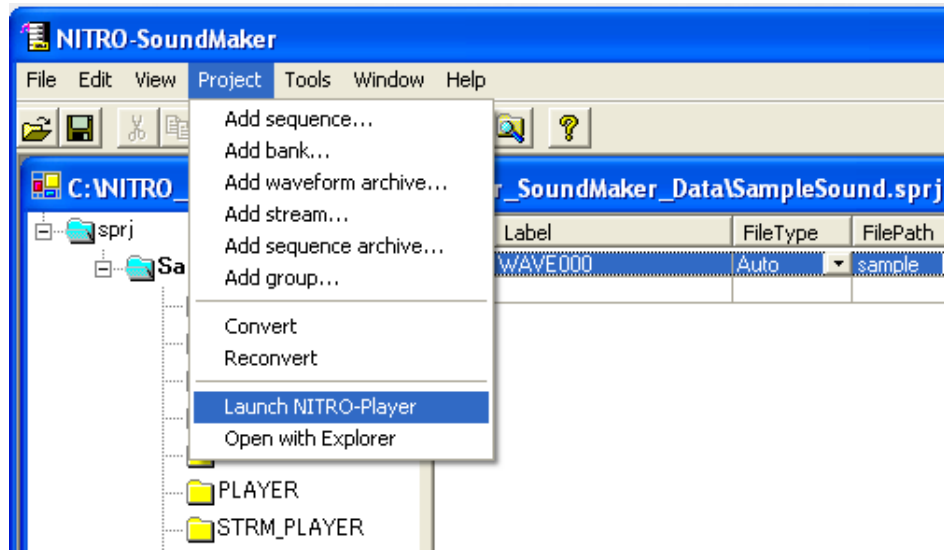
3 Project Window

3.1 Overview

The project window opens inside the main window when a sound project is loaded or created.

Each of the sound sets in a sound project is displayed in a tree on the left, and the contents of each of these sound sets can be edited using the list on the right.

3.2 Adding and Deleting Sound Sets

3.2.1 Adding Sound Sets

To add a sound set, select **Add new sound set** from the **File** menu.

Figure 3-1 Adding a New Sound Set
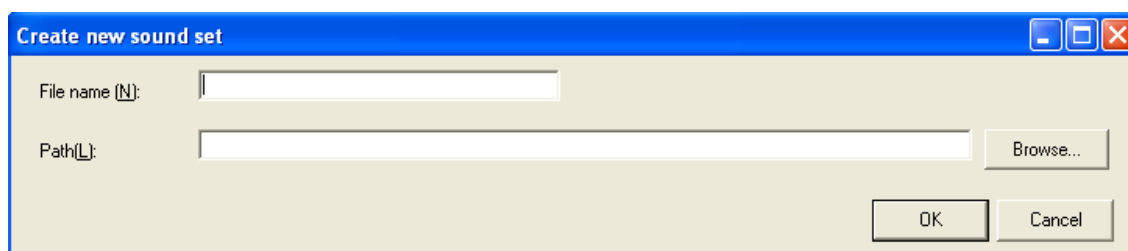
Enter a filename and path for the sound set file.

Note: If the filename matches an existing sound set filename, NITRO-SoundMaker will overwrite the existing file.

In addition, an existing sound set is added when an existing sound set is loaded.

You can also add a sound set file by right-clicking a sound project node on the tree on the project window.

3.2.2 Deleting Sound Sets

To delete a sound set in the tree, right-click it and select **Delete** from the shortcut menu.

This operation removes the link to the referenced file, but does not delete the file.

3.3 Editing Sound Sets

3.3.1 Sequence (SEQ)

A list of sequences in a sound set can be displayed on the right side of the window by selecting SEQ from the tree. This area is called the "Sequence List."

3.3.1.1   Creating and Adding New Sequences
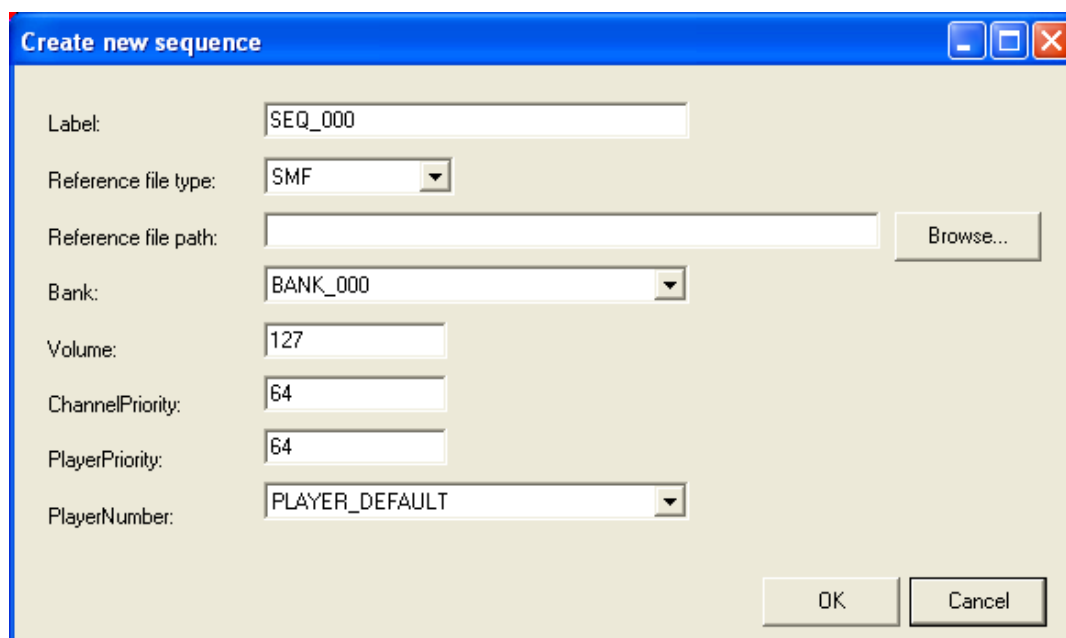
A bank that is referenced by the sequence and a wave archive that the bank references are both required to create a sequence. If you are using this document to create a new sound project for the first time, read the information regarding bank files and if necessary, wave archives.

When creating a new sequence or adding one, select the SEQ node on the tree and select **Add sequence** from the **Project** menu.

You can create new sequences or add them by right-clicking the sound set or SEQ node on the tree or by double-clicking an empty row in the Sequence List.

Create the new sequence by entering all necessary settings in the **Create new sequence** dialog box, as shown in Figure 3-2.

Figure 3-2 Creating New Sequences

A corresponding bank and player are required to create a sequence. If a bank is not included in the sound set, make sure to create one. A player is created automatically if one is not included in the sound set.

3.3.1.2   Editing Sequences

Sequences are edited using the Sequence List.

Each row in the Sequence List corresponds to each element in the sequence data section of the sound archive. Each of these represents an element that must be defined for the sequence.

Table 3-1 Elements Defining a Sequence List

Element	Description
Index	Index number
Label	Label name
FileFormat	Reference file type
FilePath	Reference filename and file path
Bank	Bank label
Volume	Volume
ChannelPriority	Voicing priority
PlayerPriority	Player priority
PlayerNumber	Player label

For descriptions of each element in the sequence data section, see the *NITRO-Composer* manual.

Note: Although label names could be omitted in the previous text-based environment, they cannot be omitted when using NITRO-SoundMaker.

The order of sequences can be rearranged by dragging and dropping. The order of sequences in the Sequence List corresponds to the order of rows of sequences listed in the sound set file.

Sequences are managed by sequence number during conversion. This number is normally assigned automatically. To change a number, right-click the sequence and select **Fix Number**. The fixed number appears in red.

To release a fixed number, select the **Release the specified index** check box in the dialog box and click **OK**.

Note: Fixed numbers are used for collaborative work where multiple sound sets are shared among different developers. Normally, we recommend using SoundMaker without fixed numbers.

3.3.1.3   Deleting Sequences

To delete a sequence, select the sequence to delete and press the **Delete** key.

You can also delete a sequence by right-clicking the row to be deleted on the Sequence List and clicking **Delete** on the shortcut menu.

This operation removes the link to the referenced file, but does not delete the file.

3.3.1.4   Checking the Reference File Type

The reference file type setting is set by using FileFormat in the Sequence List.

NITRO-SoundMaker does not automatically detect reference file types for sequences. The user must manually check reference file types.

3.3.2 Bank Files (BANK)

A list of bank files in a sound set can be displayed in a list on the right of the window by selecting BANK on the tree. This area is called the "Bank List."

3.3.2.1   Newly Creating and Adding Banks

To create or add a bank file, select the BANK node on the tree. Then select **Add bank** from the **Project** menu.

You can create or add banks by right-clicking the sound set or BANK node and selecting **Add Bank** from the shortcut menu or by double-clicking on an empty row in the Bank List.

Create a new bank by entering all necessary settings in the dialog box.

Figure 3-3 Creating New Banks

3.3.2.2 Editing Banks

Use the Bank List to edit banks. Each column in the Bank List represents an element of the bank that corresponds to the bank data section of the sound archive.

Table 3-2 Elements Defining a Bank List

Element	Description
Index	Index number
Label	Label name
FileType	Reference file type
FilePath	Reference filename and file path
WaveArc0	Zeroeth waveform archive (may be omitted)
WaveArc1	First waveform archive (may be omitted)
WaveArc2	Second waveform archive (may be omitted)
WaveArc3	Third waveform archive (may be omitted)

For descriptions of each element in the bank data section, see the NITRO-Composer manual.

Note: Although label names could be omitted in the previous text-based environment, they cannot be omitted when using NITRO-SoundMaker.

The order of banks can be rearranged by dragging and dropping. The order of banks in the Bank List corresponds to the order of rows of banks listed in the sound set file.

Banks are managed by bank number during conversion. This number is normally assigned automatically. To change a number, right-click the bank and select **Fix Number** from the shortcut menu. The fixed number will be displayed in red.

To release a fixed number, select the **Release the specified index** check box and click **OK**.

Note: Fixed numbers are used for collaborative work where multiple sound sets are shared among different developers. Normally, we recommend using SoundMaker without fixed numbers.

3.3.2.3 Deleting Banks

To delete a bank, select the bank to delete and press the **Delete** key.

You can also delete a bank by right-clicking the row to be deleted on the Bank List and clicking **Delete** on the shortcut menu.

If the bank you are deleting is referenced by a sequence, a dialog box prompts you to confirm the deletion.

This operation removes the link to the referenced file, but does not delete the file.

3.3.3   Waveform Archives (WAVEARC)

A list of wave archives in a sound set appears in a list on the right by selecting WAVEARC on the tree. This area is called the "Wave Archive List."

3.3.3.1   Newly Creating and Adding Wave Archives

1. To create or add a wave archive, first select the **WAVEARC** node on the tree.

2. Select **Add wave archive** from the **Project** menu.

   Note: You can also create or add wave archives by right-clicking the sound set or WAVEARC node and selecting **Add wave archive** from the shortcut menu, or by double-clicking an empty row in the waveform archive list.

3. Enter all necessary settings in the **Create new waveform archive** dialog box.

Figure 3-4 Creating New Wave Archives
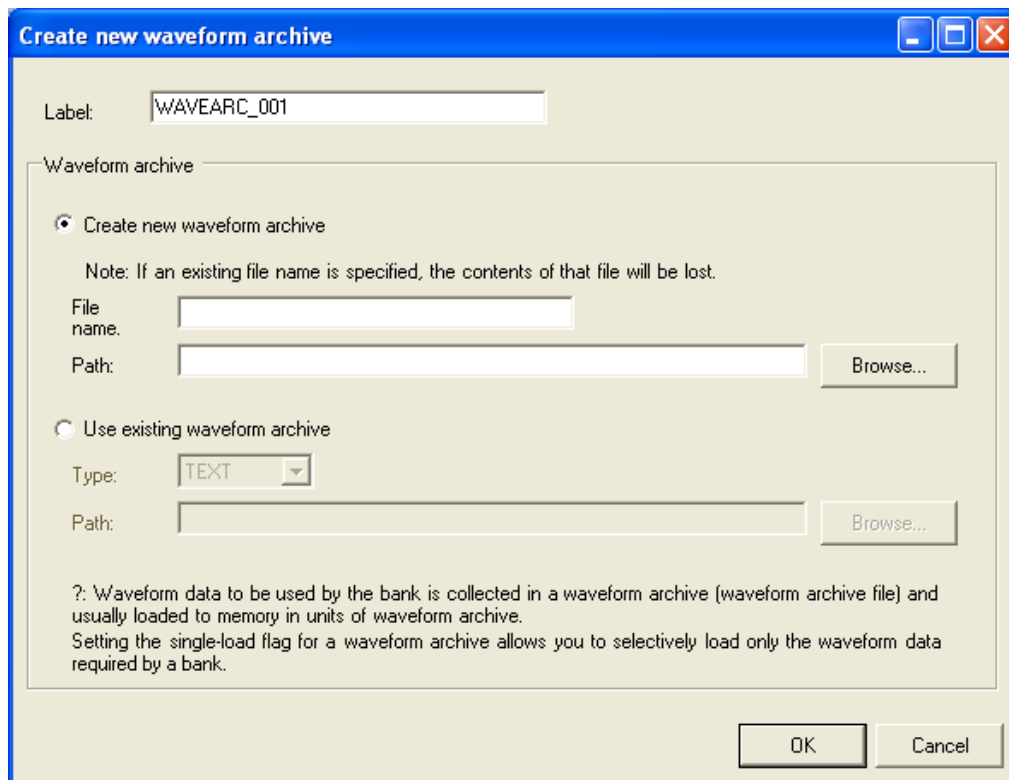
3.3.3.2   Editing Wave Archives

To edit waveform archives, use the **Waveform Archive List**.

Each column in the Waveform Archive List represents an element of waveform archive that corresponds to the waveform archive data section of the sound archive.

Table 3-3 Elements Defining a Wave Archive List

Element	Description
Index	Index number
Label	Label name
FileType	Reference file type
FilePath	Reference filename and file path
SingleLoadFlag	Option (single load) flag

For descriptions of each element in the waveform archive data section, see the *NITRO-Composer* manual.

Note: Although label names could be omitted in the previous text-based environment, they cannot be omitted when using NITRO-SoundMaker.

The order of waveform archives can be rearranged by dragging and dropping. The order of waveform archives in the Waveform Archive List corresponds to the order of waveform archives listed in the sound set file.

Waveform archives are managed by number during conversion. This number is normally assigned automatically. To change a number, right-click the archive and select **Fix Number** in the shortcut menu. The fixed number will be displayed in red.

To release a fixed number, select the **Release the specified index** check box in the dialog box and click **OK**.

Note: Fixed numbers are used for collaborative work where multiple sound sets are shared among different developers. Normally, we recommend using SoundMaker without fixed numbers.

3.3.3.3   Option (Single-Load) Flag

A sound archive normally loads waveform data into memory at the waveform archive level.

Note: Memory loading is carried out in units of groups and will be described later.

Selecting this option for a waveform archive allows only the necessary waveform data to be loaded independently.

To enable this option, select the **SingleLoadFlag** check box on the Waveform Archive List.

3.3.3.4   Deleting Waveform Archives

1. To delete a waveform archive, select the waveform archive to delete and press the **Delete** key.

   You can also delete a waveform archive by right-clicking the row to be deleted on the Waveform Archive List and clicking **Delete** on the shortcut menu.

2. If the waveform archive you are deleting is referenced by a bank, a dialog box prompts you to confirm the deletion.

This operation removes the link to the referenced file, but does not delete the file.

3.3.4   Streams (STRM)

A list of streams in a sound set can be displayed on the right by selecting STRM on the tree. This area is called the "Stream List."

3.3.4.1   Newly Creating and Adding Streams

1. To create or add a stream, select the **STRM** node on the tree.

2. Select **Add stream** from the **Project** menu.

   You can also create or add streams by right-clicking the sound set or STRM node on the tree and selecting **Add stream** from the shortcut menu, or by double-clicking an empty row in the Stream List.

3. Enter all necessary settings in the **Create new stream** dialog box.

Figure 3-5 Creating New Streams
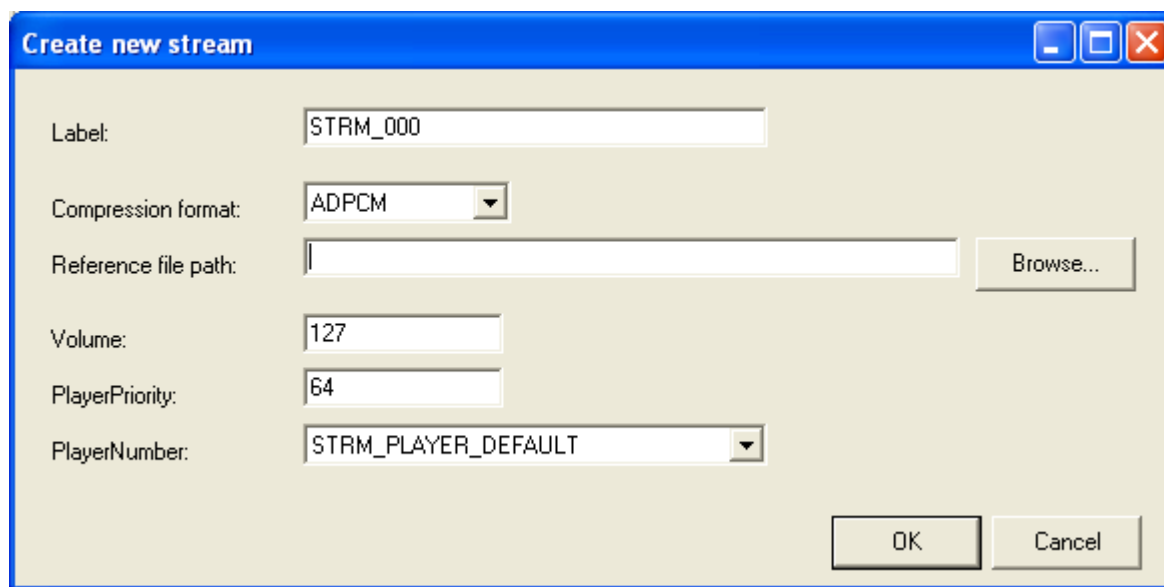
A corresponding stream player is required to create a stream.

If a player is not included in the sound set when creating a new stream, one is automatically created.

3.3.4.2   Editing Streams

Use the Stream List to edit Streams.

Each column in the Stream List represents an element of stream data that corresponds to the stream data section of the sound archive.

Table 3-4 Elements Defining a Stream List

Elements	Description
Index	Index number
Label	Label name
FileFormat	Compression format
FilePath	Reference filename and file path
Volume	Volume
PlayerPriority	Player priority
PlayerNumber	Player label
MonoToStereoFlag	Option (stereo playback) flag

For descriptions of each element in the stream data section, see the *NITRO-Composer* manual.

Note: Although label names could be omitted in the previous text-based environment, they cannot be omitted when using NITRO-SoundMaker.

The order of streams can be rearranged by dragging and dropping. The order of streams in the Stream List corresponds to the order of streams listed in the sound set file.

Streams are managed by number during conversion. This number is normally assigned automatically. To change a stream number, right-click the stream and select **Fix Number** in the shortcut menu. The fixed number will be displayed in red.

To release a fixed number, select the **Release the specified index** check box in the dialog box and click **OK**.

Note: Fixed numbers are used for collaborative work where multiple sound sets are shared among different developers. Normally, we recommend using SoundMaker without fixed numbers.

3.3.4.3 Option (Stereo Playback) Flag

Streams for which Stereo Playback is enabled can be played back louder using two speakers to play monaural wave data.

To enable this option, select the **MonoToStereoFlag** check box in the Stream List.

Although both stereo and monaural wave files can be played when using streams, stereo wave files can only be played using a stereo stream player.

3.3.4.4 Deleting Streams

To delete a stream, select the stream to delete and press the **Delete** key.

You can also delete a stream by right-clicking the row to be deleted on the Stream List and clicking **Delete** on the shortcut menu.

This operation removes the link to the referenced file, but does not delete the file.

3.3.5 Sequence Archives (SEQARC)

A list of sequence archives included in a sound set can be displayed by selecting SEQARC on the tree. This area is called the "Sequence Archive List."

3.3.5.1   Newly Creating and Adding Sequence Archives

1. To create or add a sequence archive, select the **SEQARC** node on the tree.

2. Select **Add sequence archive** from the **Project** menu.

   You can also create or add sequence archives by right-clicking the sound set and selecting **Add sequence archive** from the shortcut menu, or by double-clicking an empty row in the Sequence Archive List.

3. Enter all necessary settings in the **Create new sequence archive** dialog box.

Figure 3-6 Creating New Sequence Archives
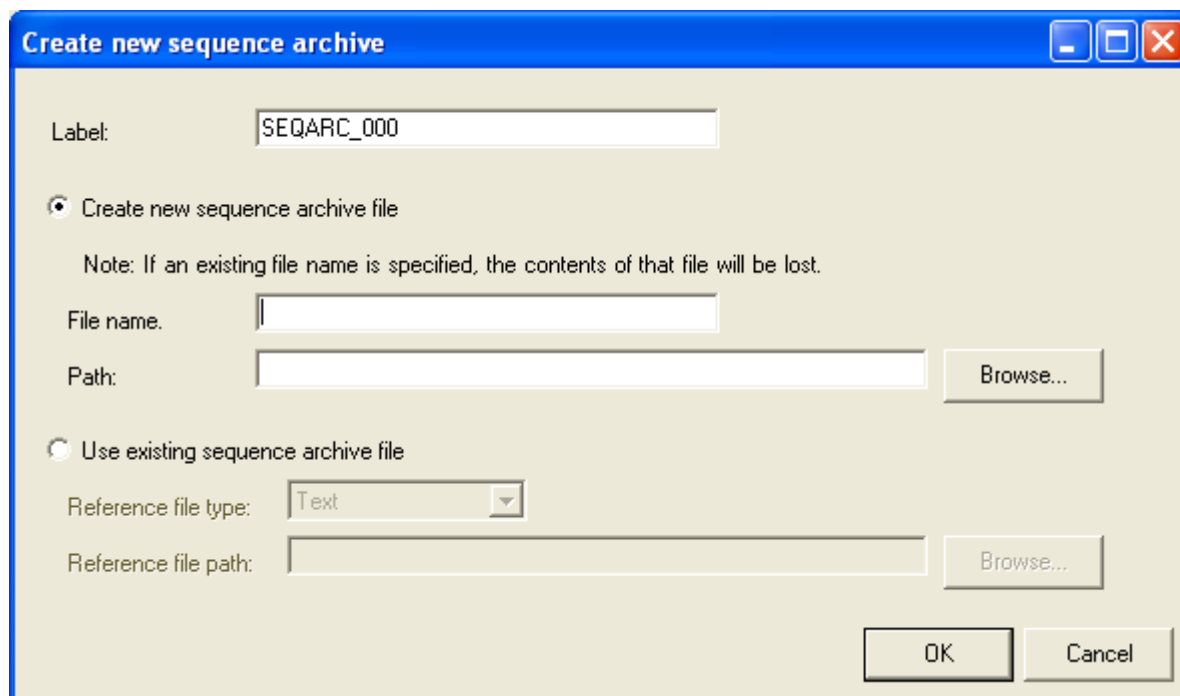
3.3.5.2   Editing Sequence Archives

To edit sequence archives, use the **Sequence Archive List**.

Each column in the Sequence Archive List represents an element defined for the sequence archive.

Table 3-5 Elements Defining a Sequence Archive List

Elements	Description
Index	Index number
Label	Label name
FileType	Reference file type
FilePath	Reference filename and file path

For descriptions of each element in the sequence archive data section, see the *NITRO-Composer* manual.

Note: Although label names could be omitted in the previous text-based environment, they cannot be omitted when using NITRO-SoundMaker.

The order of sequence archives can be rearranged by dragging and dropping. The order of sequence archives in the Sequence Archive List corresponds to the order of sequence archives listed in the sound set file.

Sequence archives are managed by number during conversion. This number is normally assigned automatically. To change a sequence archive number, right-click the sequence archive and select **Fix Number** in the shortcut menu. The fixed number will be displayed in red.

To release a fixed number, select the **Release the specified index** check box in the dialog box and click **OK**.

Note: Fixed numbers are used for collaborative work where multiple sound sets are shared among different developers. Normally, we recommend using SoundMaker without fixed numbers.

3.3.5.3   Editing Sequence Archive Files

To edit sequence archives, access the sequence archive file using a text editor.

For details on sequence archive files, see the *NITRO-Composer* manual.

You can also open the file with a text editor by right-clicking the sequence archive in the Sequence Archive List and selecting **Open reference file** from the shortcut menu. The sequence archive will open using the default application associated with the file extension.

You can also perform this operation by selecting a sequence archive from the Sequence Archive List and pressing **Ctrl+E**.

3.3.5.4   Deleting Sequence Archives

To delete a sequence archive, select the sequence archive to delete and press the **Delete** key.

You can also delete a sequence archive by right-clicking the row to be deleted on the Sequence Archive List and clicking **Delete** on the shortcut menu.

This operation removes the link to the referenced file without deleting the actual file.

3.3.6   Players (PLAYER)

A list of players included in a sound set can be displayed in a list by selecting PLAYER on the tree. This area is called the "Player List."

3.3.6.1   Newly Creating and Adding Players

1. To create or add a player, select the **Player** node on the tree.

2. Select **Create new player** from the **Project** menu.

   You can also create or add players by right-clicking the Player node and selecting **Create new player** from the shortcut menu, or by double-clicking an empty row in the Player List.

3. Enter all necessary settings in the **Create new player** dialog box.

Figure 3-7 Creating Players
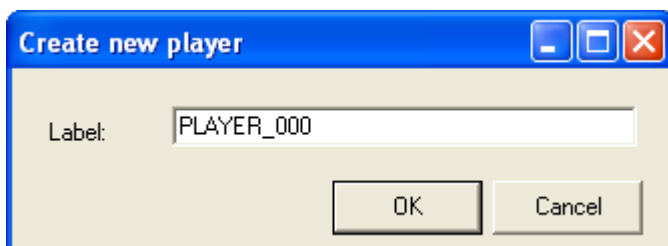
3.3.6.2   Editing Players

Use the Player List to edit Players.

Each column in the Stream List represents an element of stream data that corresponds to the stream data section of the sound archive.

Each column in the Player List represents an element of player data that corresponds to the player section of the sound archive.

Table 3-6 Elements Defining a Player List

Elements	Description
No.	Player number
Label	Label name
SeqMax	Maximum number of sequences that can be played back simultaneously
HeapSize	Player heap size
ChannelBitFlag	Securable channel bit flag

For descriptions of each element in the player data section, see the *NITRO-Composer* manual.

Although you can move players by dragging and dropping, the operations differ slightly between the Player List and other lists.

Thirty-two rows, each corresponding to a player number, are displayed in the Player List. Dragging

and dropping an item on the Player List is equivalent to moving the player (label) that corresponds to this number.

Players are always displayed in the Player List in order of the player number.

To change a player number corresponding to a label, enter a numeric value directly into the **No.** cell. The player order is refreshed based on the change that you made.

Dragging and dropping can only be used to move rows that have an empty player number.

3.3.6.3   Deleting Players

1. To delete a player, select the player to delete and press the **Delete** key.

   You can also delete a player by right-clicking the row to be deleted on the Player List and clicking **Delete** on the shortcut menu.

2. If the player you are deleting is referenced by a sequence, a dialog box appears that prompts you to confirm the deletion.

3.3.7 Stream Players (STRM_PLAYER)

A list of stream players included in a sound set can be displayed in the window by selecting STRM_PLAYER on the tree. This area is called the "Stream Player List."

3.3.7.1   Newly Creating and Adding Stream Players

1. To create or add a stream player, select the **STRM_PLAYER** node on the tree.

2. Select **Add stream player** from the **Project** menu.

   You can also create or add stream players by right-clicking the STRM_PLAYER node and selecting **Add stream player** from the shortcut menu, or by double-clicking an empty row in the Stream Player List.

3. Enter all necessary settings in the **Create new stream player** dialog box.

Figure 3-8 Creating Stream Players
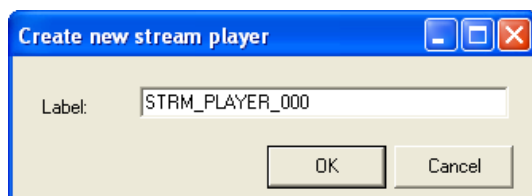
3.3.7.2   Editing Stream Players

Use the **Player List** to edit stream players.

Each column in the Stream Player List represents an element of stream player data that corresponds to the stream player section of the sound archive.

Table 3-7 Elements Defining a Stream Player List

Elements	Description
No.	Stream player number
Label	Label name
Type	Player type
Channel0	Channel number 0
Channel1	Channel number 1

For descriptions of each element in the player data section, see the *NITRO-Composer* manual.

Although you can move stream players, the operations differ slightly between the Stream Player list and other lists.

Four rows, each corresponding to a Stream Player Number are displayed in the Stream Player List. Dragging and dropping an item on the Stream Player List is equivalent to moving the player (label) that corresponds to this number.

Stream players are always displayed in the Stream Player List in order of Stream Player Number.

To change a stream player number corresponding to a label, enter a numeric value directly into the **No.** cell. The stream player order is refreshed based on the change that you made.

Dragging and dropping can only be used to move that have an empty stream player number.

3.3.7.3   Channel Number Specification

Channel0 and Channel1 are the most common channel numbers used by the stream player. Specify one channel number for a monaural stream channel and two channel numbers for stereo stream channels.

Although you can specify channel numbers from 0 to 15, consider coordination with other applications as the function for each channel differs based on its number.

For details on the use of each channel number, see the *NITRO-Composer Sound System Manual*.

3.3.7.4   Deleting Stream Players

1. To delete a stream player, select the stream player to delete and press the **Delete** key.

   You can also delete a stream player by right-clicking the row to be deleted on the Stream Player List and clicking **Delete** on the shortcut menu.

2. If the stream player you are deleting is referenced by a sequence, a dialog box appears that prompts you to confirm the deletion.

3.3.8   Groups (GROUP)

A list of groups can be displayed in a list in the window by selecting STRM_PLAYER on the tree. This area is called the "Group List."

Selecting a group in the Group List displays a list of labels registered for that group at the bottom of the window. This area of the window is called the "Group Member List."
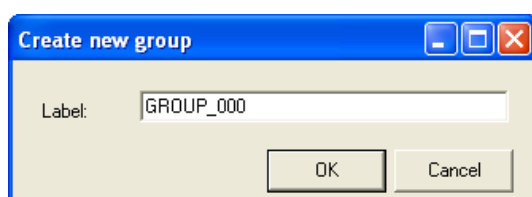
3.3.8.1   Creating Groups

1. To create a group, select the **GROUP** node on the tree.

2. Select **Add group** from the **Project** menu.

   You can also create groups by right-clicking the Group node and selecting **Add group** from the shortcut menu, or by double-clicking an empty row in the Group List.

3. Enter all necessary settings in the **Create new group** dialog box.

Figure 3-9 Creating Groups

3.3.8.2   Editing Groups

To edit groups, use the Group List and Group Member List.

The Group List is used to change group names and the Group Member List (described later) is used to register labels for each group.

Each column in the Stream Player List represents an element of stream player data that corresponds to the stream player section of the sound archive.

Each column of the Group List and Group Member List represents an element of group data that corresponds to the group data section of the sound archive.

Table 3-8 Elements Defining a Group List

Element	Description
No.	Index number
Label	Group label

Table 3-9 Elements Defining a Group Member List

Element	Description
No.	Index number
Label	Sound data label
Option	Option (may be omitted)

For descriptions of each group data element, see the *NITRO-Composer* manual.

Items on the Group List and Group Member List can be rearranged by dragging and dropping. The order of each list corresponds to the order items are listed in the group data section in the sound set file.

Fixed numbers cannot be used on the Group List and Group Member List.

3.3.8.3   Deleting Groups

To delete a group, select the group to delete and press the **Delete** key.

You can also delete a group by right-clicking the row to be deleted on the Group List and clicking **Delete** on the shortcut menu.

3.3.8.4   Registering and Changing Labels for a Group

Use the Group Member List to register labels for groups and change labels that are registered.

First, select the group for which you want to register a label on the Group List and double-click an empty list in the Group Member List, or select **New** in the shortcut menu that appears when you right-click. This displays a list of available labels. Select one to register a label.

If a label is already registered, clicking the button to the right of a cell displays a list of available labels. Select one to update the label.

Figure 3-10 Registering Labels for Groups
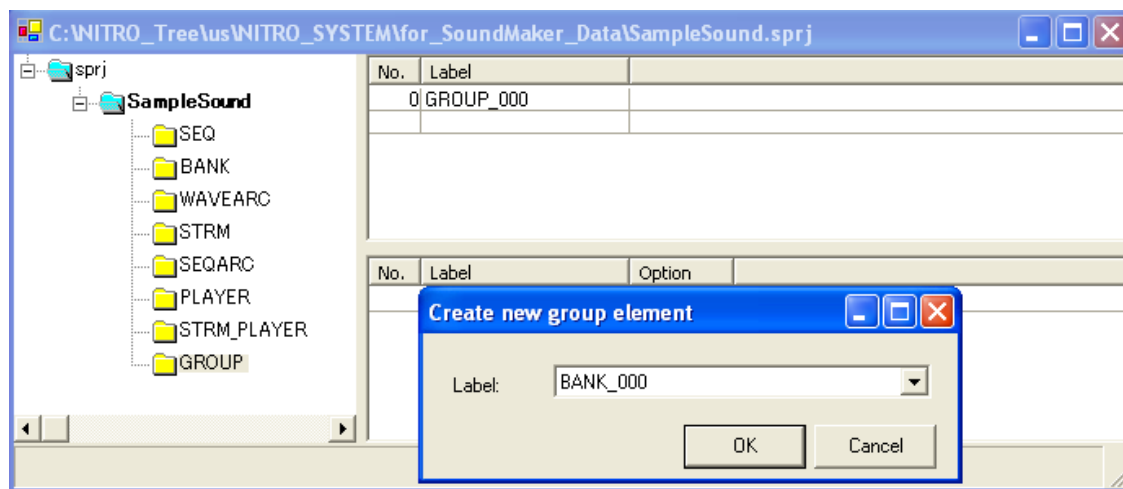
3.3.8.5   Deleting Labels from a Group Member List

To delete a label, select the label to be deleted on the Group Member List and press the **DEL** key.

You can also delete a label by right-clicking the row to be deleted on the Group Member List and clicking **Delete** on the shortcut menu.
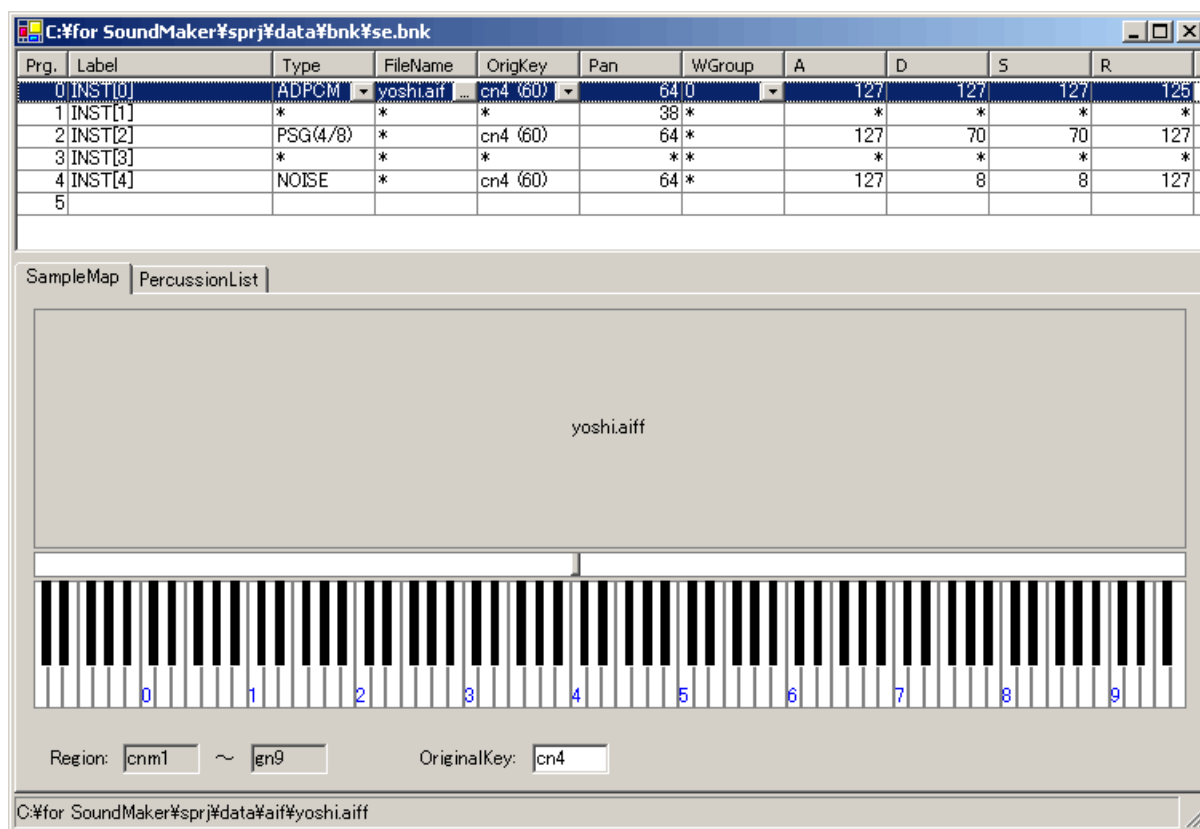
4 Bank Window

4.1 Overview

The Bank window appears when you select BANK for a sound set or right-click a bank in the project window and select **Open Reference File**.

The Bank window can be used to open and edit a bank file referenced by a sound set.

One window corresponds to one bank file.

The upper area of the Bank window is called the "Instrument List." This area is used to add instruments and edit their parameters.

Figure 4-1 Instrument List and SampleMap

The lower area of the bank window contains the SampleMap and PercussionList, which are used to edit instruments. In this area, regions can be created at the instrument level, waveforms specified at the region level, and parameters edited.

Figure 4-2 PercussionList

Key	A	D	S	R	Disable	Pan	WGroup	OrigKey	Type	FileName
cnm1(0)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
csm1(1)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
dnm1(2)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
dsm1(3)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
enm1(4)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
fnm1(5)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
fsm1(6)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
gnm1(7)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
gsm1(8)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
anm1(9)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
asm1(10)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
bnm1(11)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
cn0(12)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
cs0(13)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
dn0(14)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
ds0(15)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
en0(16)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
fn0(17)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
fs0(18)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff
gn0(19)	127	127	127	125	☐	64	0	cn4 (60)	ADPCM	yoshi.aiff

To switch between the **SampleMap** and **PercussionList**, select their corresponding tabs. Be sure to use these areas according to the type of instrument you create.

SampleMap is primarily used to create regular instruments, while PercussionList is primarily used to create drum sets.

Note: NITRO-SoundMaker does not include the concept of a "drum set" used in the text environment.

This is automatically detected at the time of conversion based on the number of regions.

4.2 Adding and Deleting Bank Files

To create a new bank file, add a bank to the sound set.

Bank files cannot be deleted in NITRO-SoundMaker.

Note: Adding or deleting a bank on the Bank List associated with a sound set is an operation performed on labels inside the sound set.

Adding or deleting a bank file referenced by a bank is a different operation.

4.3 Editing Bank Files

4.3.1 Creating Instruments

To create an instrument, use the Instrument List.

1. To open a dialog box, double-click an empty row in the Instrument List, or right-click and select **New** in the shortcut menu.

2. Enter all necessary settings in the **Create new instrument** dialog box.

Figure 4-3 Creating Instruments
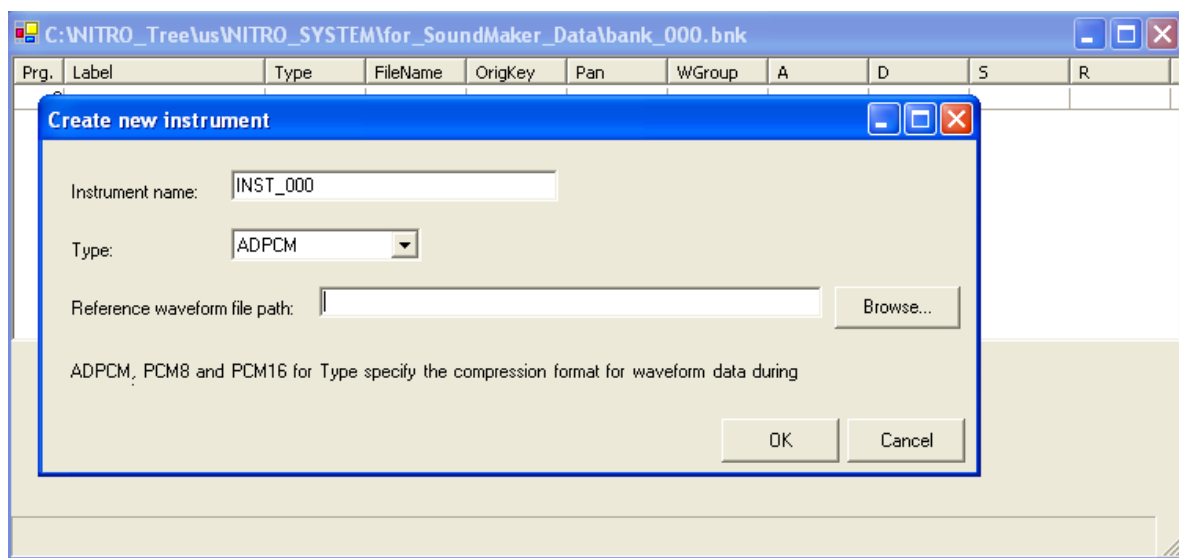
A wave file specification is required when any of the following types is selected: ADPCM, PCM8, PCM16, or Swav.

NITRO-SoundMaker only checks the validity of wave files when creating an instrument by checking whether the file format can be converted.

Wave files referenced by an instrument are not checked when a bank file is loaded. If the referenced file was converted to an invalid wave file after the instrument was created, playback of the instrument using PC emulation will fail and no sound will be output. An error will occur if you attempt to convert an invalid wave file.

For information on supported wave file formats, see the NITRO-Composer manual.

Note: Although it was possible under the old text environment to set key split labels for instruments, under NITRO-SoundMaker, key split labels are automatically assigned to instruments upon creation.

If you need to set a key split label, open the bank file using a text editor and edit the file manually.

4.4 Editing Instruments

Instruments are primarily edited using the Instrument List. Operations on the SampleMap and PercussionList are required when doing things like creating multi-region instruments.

This section describes how to edit each element of a bank file using the Instrument List, SampleMap, and PercussionList.

4.4.1   Changing Names

To change the name of an instrument, select the **Label** cell of an instrument and enter the new name.

The name of an instrument cannot be changed on the SampleMap or PercussionList.

4.4.2   Program Number Specifications

To specify a program number, enter a value in the **Prg.** cell of the instrument.

Created instruments are always displayed on the Instrument List, in the order specified by the program number.

Program numbers cannot be specified on the SampleMap or PercussionList.

4.4.3   Creating Regions

4.4.3.1   Instruments

You cannot create regions with instruments.

4.4.3.2   SampleMap

The area corresponding to the region is displayed on the keyboard.

The bar between the region and the keyboard represents the setting position for the original key of the region.

A selected region can be divided by selecting a region, right-clicking it, and selecting **Divide selected region** from the shortcut menu.

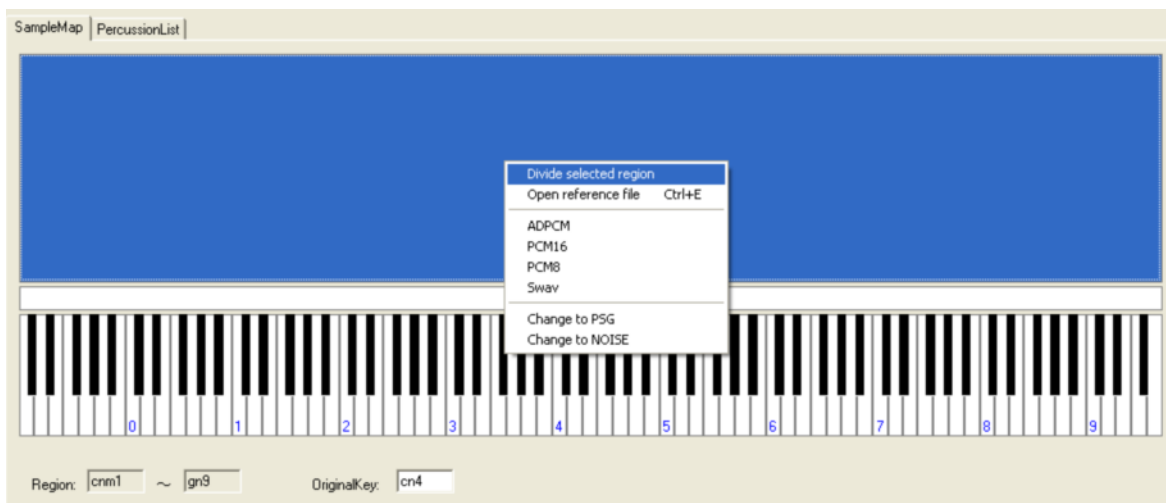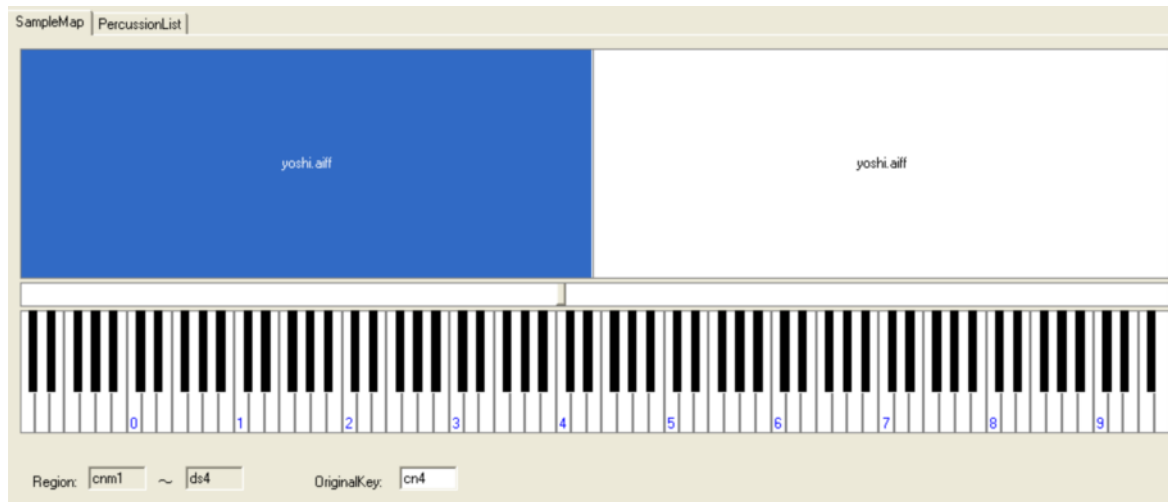**Figure 4-4 Creating in SampleMap Region 1**

Figure 4-5 Creating in SampleMap Region 2

4.4.3.3   PercussionList

Each row in the PercussionList corresponds to a key on the keyboard. Keys are displayed from the top with the lowest keyboard key corresponding to the lowest number.

The row corresponding to the bottom-most key in the region is displayed in black letters. This is the bottom boundary of the region. Rows outside the region boundary are displayed in gray letters.

A region can be created by double-clicking a row corresponding to the bottom-most key of the region.

4.4.4   Updating the Type and FileName

Instrument types can be classified into one of three main categories.

Table 4-1 Instrument Types

TYPE	Wave file	Other settings
PCM	Required	Select ADPCM, PCM8, PCM16, or Swav
PSG	Not required	Select the duty factor (1/8~7/8)
NOISE	Not required	Not required

You can set a total of 12 types of instruments: 4 PCM types, 7 PSG types, and 1 NOISE type.

Type settings can be made separately for each region. A filename must also be specified if a change is made from PSG to a PCM or other type.

Note: A dialog box will appear immediately after making a selection.

4.4.4.1   Instrument List

Type specifications cannot be made for instruments at the region level.

If a type specification is required at the region level, use SampleMap or PercussionList.

A type specification made on the Instrument List for a multi-region instrument is applied to all regions for that instrument.

If different types are specified for each region in a multi-region instrument, an asterisk (∗) will appear in the **Type** cell, indicating that operations cannot be performed on the instrument.

You can also change types by right-clicking an instrument and choosing a different type.

Figure 4-6 Changing Types on the Instrument List
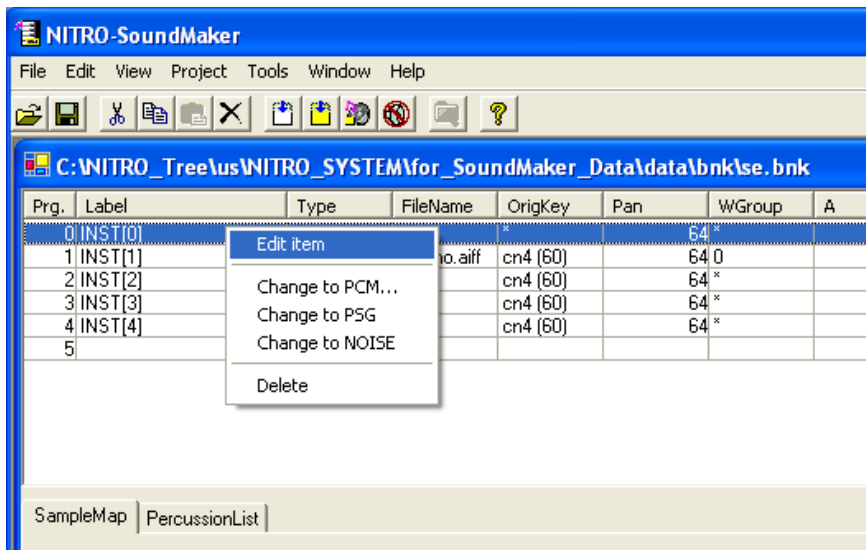
To make another type setting within PCM or to change the duty factor for PSG, click the **Type** cell in the instrument row and select another setting.

To change the wave file referenced by a PCM, click the **FileName** cell.

4.4.4.2   SampleMap

The instrument type can be changed at the region level using the SampleMap. To do so, right-click the region and select another option from the shortcut menu.

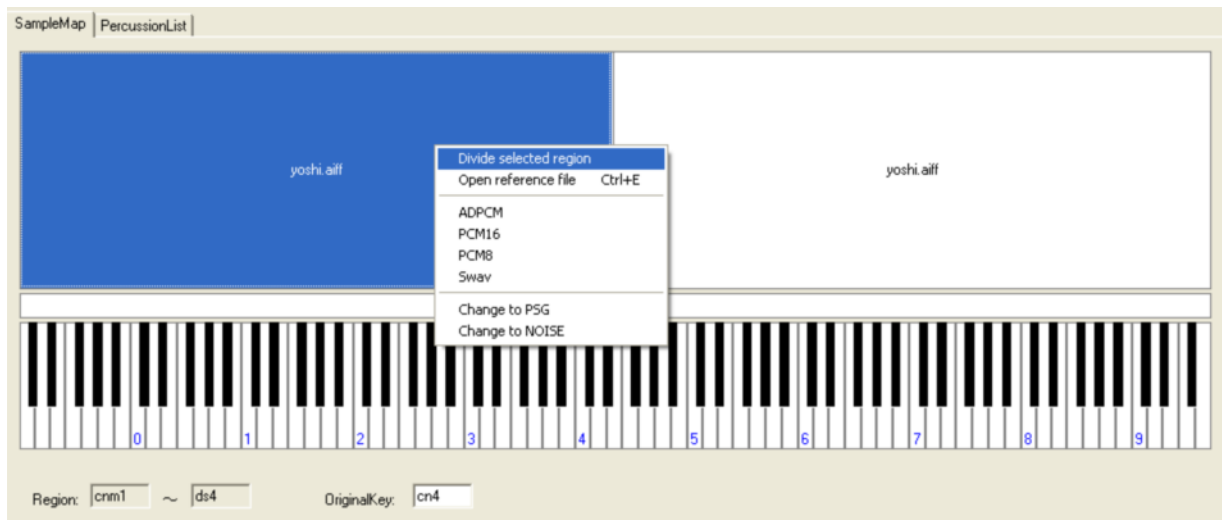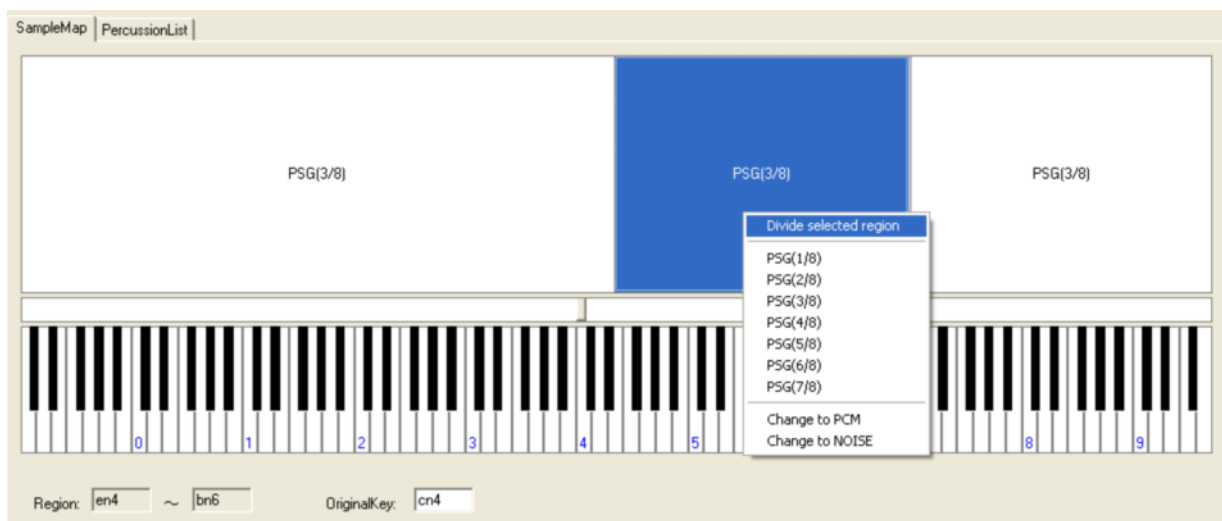**Figure 4-7 Changing Region Types Using SampleMap 1**

Figure 4-8 Changing Region Types Using SampleMap 2

To change the wave file referenced by a PCM, click the **FileName** cell.

4.4.4.3   PercussionList

Type changes can be made at the region level on the PercussionList.

- To change types, right-click a row in the region to change and select another type from the shortcut menu.

- To make another type setting within PCM or to change the duty factor for PSG, click the **Type** cell in the region to be change and select an option from the list box.

- To change the wave file referenced by a PCM, click the **FileName** cell in the region.

Figure 4-9 Changing Region Type on the PercussionList

4.4.5   Editing Envelopes

4.4.5.1   Instrument List

You cannot use the Instrument List to make an envelope specification at the region level. Perform envelope specifications at the region level using SampleMap or PercussionList.

An envelope specification made on the Instrument List for a multi-region instrument is applied to all regions for that instrument.

If different envelopes are specified for each region of a multi-region instrument, an asterisk (*) will appear in the instrument's cell, indicating that operations cannot be performed on it.

To change envelopes, enter values in the cells corresponding to each phase of the envelope.

You can disable release using the **Disable** check box. When **Disable** is selected, release is disabled, and the `.wav` data will be played until the end, even after the specified note length is reached.

Note: If you disable release for looping wave data, it will continue to play until the sequence is stopped.

You can also edit an envelope on the Instrument List using the Instrument Parameter Panel. This will be described later.

4.4.5.2   Editing Using SampleMap

You can edit envelopes using SampleMap in the Instrument Parameter Panel. This will be described later.

4.4.5.3   Editing with the PercussionList

You can specify an envelope for a PercussionList at the region level.

To change envelopes, enter values in the cells corresponding to each phase of the envelope of the region to change.

You can disable release using the **Disable** check box. When **Disable** is selected, release is disabled, and the wave data will be played until the end, even after the specified note length is reached.

Note: If you disable release for looping `.wav` data, it will continue to play until the sequence is stopped.

You can also edit envelopes on the PercussionList using the Instrument Parameter Panel. This will be described later.

4.5 Instrument Parameter Panel

4.5.1 Overview

There is a special panel for entering envelope and pan data on the Bank window that allows editing using sliders while visually confirming envelope and pan values on a graph.

The graph curve in the following graphic is based on actual NITRO-Composer operations.

Figure 4-10 Instrument Parameter Panel
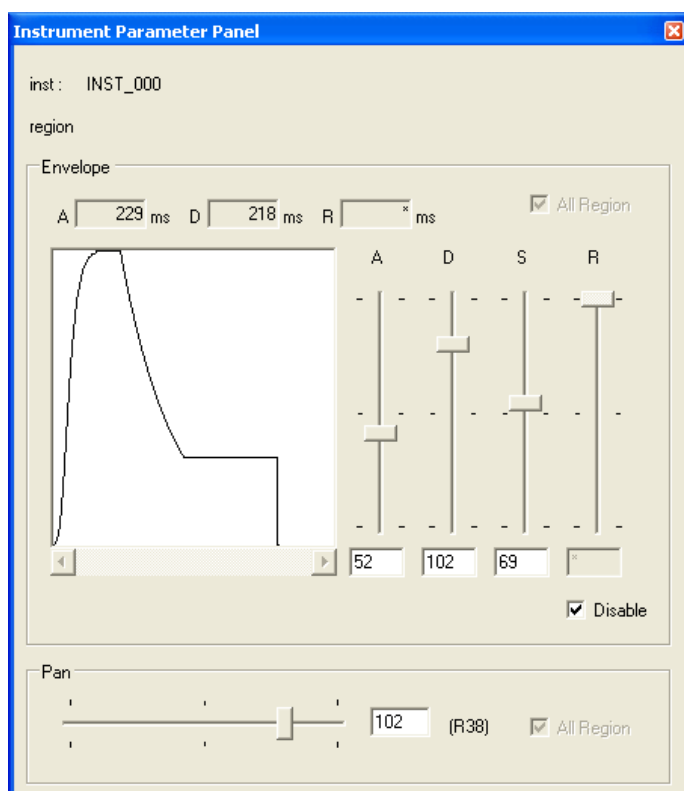
4.5.2 Opening the Instrument Parameter Panel

The Instrument Parameter Panel usually opens when the bank window opens.

To manually switch between viewing and hiding this window, select **Instrument Parameter Panel** from the **View** menu.

4.5.3 Instrument Parameter Panel Operations

4.5.3.1 Envelope

An instrument or region can be selected at any location within the bank window. Envelope values for the selected instrument or envelope can then be edited by specifying envelope parameters on the Instrument Parameter Panel.

You can disable release using the **Disable** check box. When Disable is selected, release is disabled, and the `.wav` data will be played until the end, even after the specified note length is reached.

Note: If you disable release for looping `.wav` data, it will continue to play until the sequence is stopped.

Changes will apply to all selected instruments if the **All Region** check box is selected; otherwise, operations are performed on the selected region.

4.5.3.2 Pan

An instrument or region can be selected at any location within the bank Window. The pan values for the envelope can then be edited by specifying envelope parameters on the Instrument Parameter Panel.

Changes will apply to all selected instruments if the **All Region** check box is selected; otherwise, operations are performed on the selected region.

The **All Region** option can be selected separately for envelope and pan.

5 PC Emulation

5.1 Overview of PC Emulation Features

SoundMaker supports the playback of instruments through PC emulation. PC emulation is an independent program from NITRO-SoundMaker that faithfully reproduces sound as it is heard on the actual hardware by using NITRO-Composer source code for emulation operations.

Figure 5-1 PC Emulation Concept
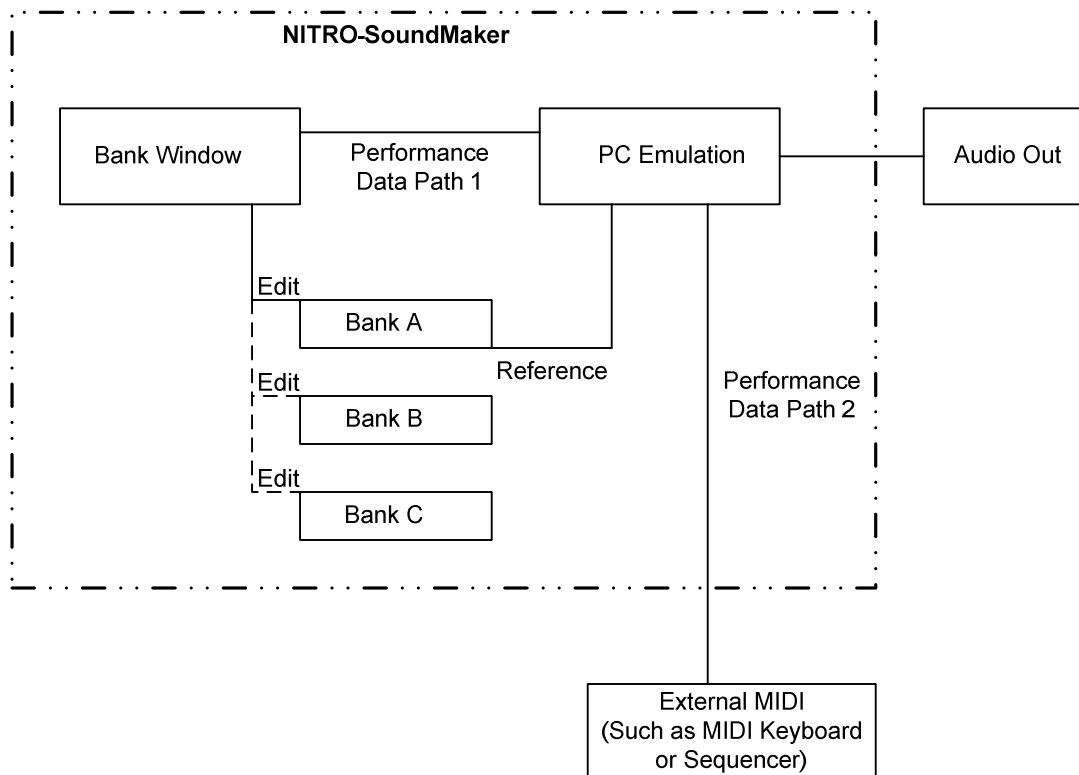
5.2 Playing Back Instruments Using PC Emulation

There are two methods of playing back instruments using PC emulation.

The first is a GUI-based method in which playback is performed from the bank window, shown in Figure 5-1 as "Performance Data Path 1."

The second is a MIDI signal-based method of playback from external MIDI hardware, shown in Figure 5-1 as "Performance Data Path 2."

Note: These two types of playback are handled completely differently under PC emulation. Selection of instruments under the GUI has no adverse effects on the playback of a particular MIDI channel.

5.2.1 Playback from the Bank Window

Operations are performed from the Bank window. If more than one Bank window is open, the instrument in the active bank window is always played.

5.2.1.1   Instrument List

Notes are toggled on and off using the space bar on the PC keyboard. Each press and release operation of the space bar corresponds to toggling a note on/off for each MIDI voice. This feature is shared by all space bar-based playback conducted from the Bank window.

Instruments selected for playback from the Instrument List by using the space key are played back using the C4 key on the virtual keyboard.

5.2.1.2   SampleMap

Playback from SampleMap is performed by clicking on the virtual keyboard on the GUI or by pressing the space bar on the PC keyboard.

An instrument that you are editing by clicking on the virtual keyboard can be played back using the key that corresponds to that instrument.

The space bar is used to play back regions. The waveform in a region selected using the space bar can be played back using the original key for that waveform.

If PSG or NOISE is selected for a region, the audio sound of that region can be played back using the C4 key on the virtual keyboard.

5.2.1.3   PercussionList

Playback from the PercussionList is performed using the space bar on the PC keyboard. Playback is performed using the key corresponding to the list from which the instrument being edited was selected using the space bar.

5.2.2 Playback Using External MIDI Input

PC emulation functions as a 16-channel, multi-timbre audio source for MIDI input from the specified MIDI port. Channels outputting the audio associated with MIDI input correspond to active Bank window instruments on all channels, and instruments can be switched using the program numbers set on the Instrument List.

Be sure to specify the program number of the instrument to be played back on each channel using MIDI program change. It is impossible to simultaneously play back separate bank instruments on more than one MIDI channel.

Banks are switched when a Bank window on the Project window goes active. Once program numbers are set for a channel, they cannot be reset, even if the active Bank window is switched.

If program change settings were not carried out for a MIDI channel, program 0 is selected as the initial value.

5.3 PC Emulation Dialog Box

The PC Emulation dialog box displays the label names of banks that are currently supported by PC emulation as well as each status "MIDI Receive" and "Actual Voice."

Figure 5-2 PC Emulation Dialog Box
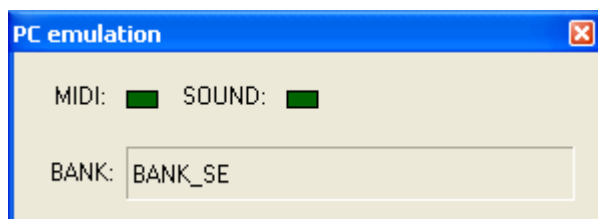
Banks currently supported by PC emulation are displayed in the BANK: box.

The green MIDI indicator illuminates when a MIDI signal is received by the PC emulation. Similarly, the green SOUND indicator illuminates when a sound is output by PC emulation.

This provides real-time status by updating once every 1/30th of a second. Note that when extremely short sounds are reproduced, it may be impossible to confirm the green light has turned on.

5.4 Precautions on Using PC Emulation

5.4.1 Using PC Emulation from a Sequencer Running on the Same PC

To perform PC emulation playback of MIDI output from a sequencer running on the same PC as NITRO-SoundMaker, reverse the flow of the MIDI signal output from a sequencer to the MIDI input of the PC.

Reversing the flow of a MIDI signal in this way is called "loop-back." Loop-back is usually implemented in software using a virtual MIDI device driver that is available as freeware.

An image of the settings window that appears when using "MIDI-Yoke," a basic software application for performing loop-back, appears later in the description of optional MIDI settings.

5.4.2 Reproducibility of Audio Using PC Emulation

Although audio playback using PC emulation faithfully reproduces the operations of NITRO-Composer, degradation of audio quality due to compression of wave data, such as with ADPCM and characteristics of hardware audio circuits, are not reproduced during sound playback. For this reason, differences arise in actual output quality when using PC emulation versus actual hardware

Although NITRO-SoundMaker supports all MIDI instructions supported by NITRO-Composer (except for features such as looping, which in principle, are impossible to implement), PC emulation does not support sequence command playback.
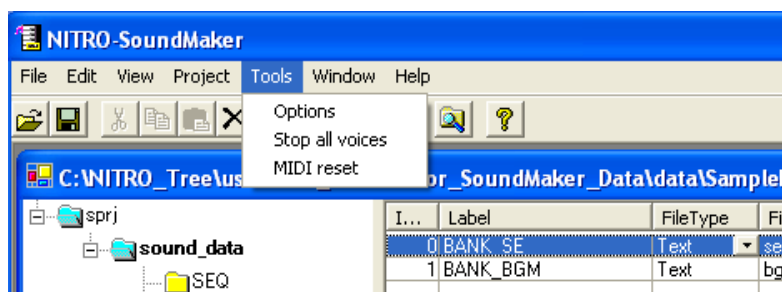
Consequentially, you should always use the actual hardware to verify a MIDI sequence.

6 Miscellaneous Features

6.1 Options

To change NITRO-SoundMaker operational settings, use the **Options** window. To open, select **Options** from the **Tools** menu.
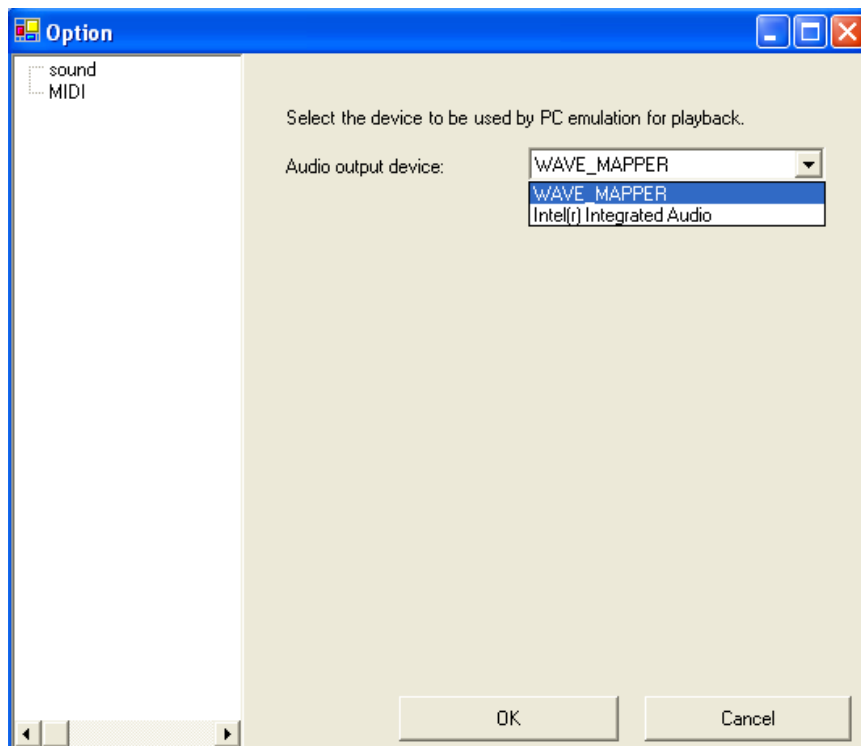
Figure 6-1 Tools Menu

6.1.1 Sound

The PC emulation audio output device can be selected by selecting **sound** from the items shown at the left side of the window.
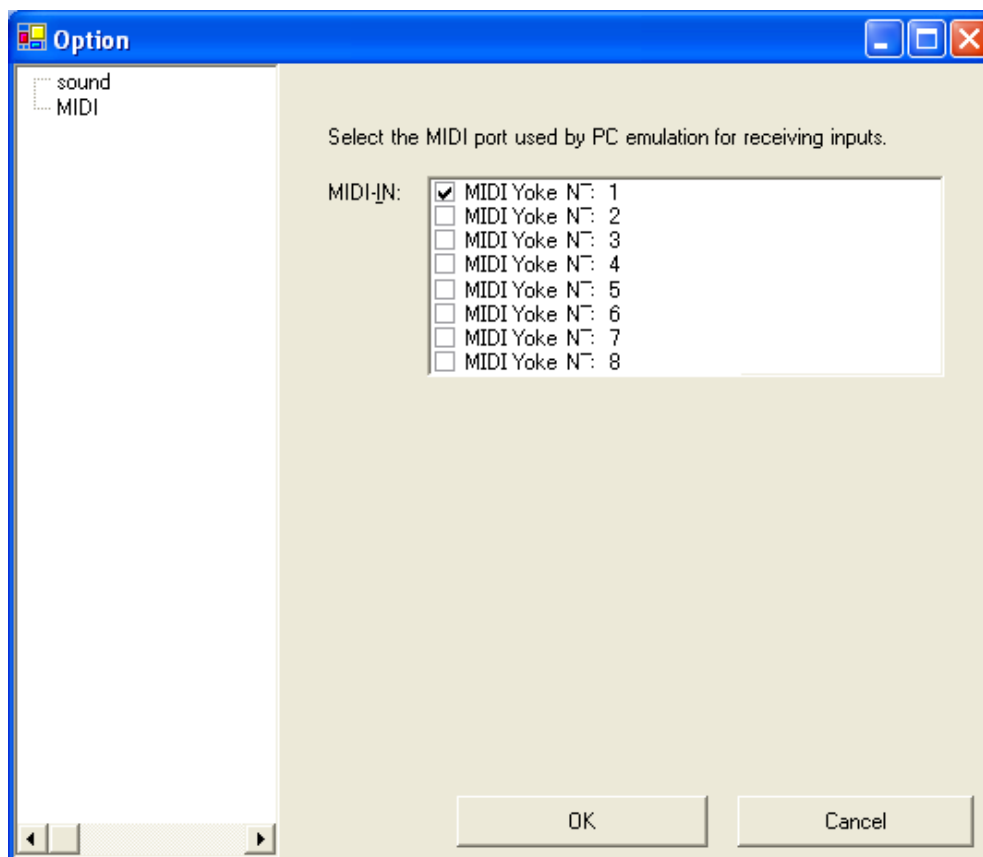
Figure 6-2 Sound Option

6.1.2 MIDI

The MIDI port used by NITRO-SoundMaker to send and receive MIDI data can be selected by selecting **MIDI** from the items at the left side of the window.

Figure 6-3 MIDI Option

6.2 Stopping All Sound Output

To allow the user to forcibly stop all audio played back using PC emulation, select **Stop all output** in the **Tools** menu.

This function is used to stop an instrument for which an extremely long release time was set by the envelope.

6.3 MIDI Reset

To reset MIDI parameters used during PC emulation, select **MIDI Reset** in the **Tools** menu. This resets all parameters, including the volume level that was specified for MIDI playback.

This is used when MIDI message-based parameter specifications must be changed, such as when playing a different MIDI sequence under PC emulation or when playing back a MIDI sequence from a point midway through the piece.

6.4 Starting Explorer

Only sound set files, bank files, and wave archive files can be created in NITRO-SoundMaker. NITRO-SoundMaker does not delete files except when overwriting an existing file.

Windows Explorer can be used during the selection of an instrument or region that references any type of label or wave file that has a reference file in the sound set. To open Windows Explorer, select **Open Explorer** in the **Project** menu.

You can also use this feature to open the folder containing the reference file, arrange files, change filenames, temporarily create files, and delete files that are no longer necessary.

6.5 Opening a Reference File

You can open reference files that use an external application from within NITRO-SoundMaker.

With any Sound Set List, right-click a row that contains a label with a file reference and select **Open reference file** from the shortcut menu. The file will open using the application associated with the file extension used.

The only method supported for opening a wave file referenced by a region in the Bank window is from the SampleMap.

Note: This operation can also be performed using the keyboard shortcut CTRL+E.

This feature is useful when creating a large number of sound effects for a sequence archive using a text editor.

6.6 Saving a Reference File Path

Reference file paths that are specified in NITRO-SoundMaker are stored as relative paths when the reference file is located on the same drive as the sound project file, but as absolute paths when the reference file is located on a drive other than the sound project file.

When working on sound files, it is possible to create a complete backup of a sound project by collecting all reference files inside a folder having the same hierarchy as the sound project file and then saving that folder.

6.7 Specify Options and Convert

Selecting **Specify Options and Convert** in the **Project** menu lets you perform conversions while specifying the file type to be converted and whether NITRO-Player should be launched.

For example, if you are only editing SMF files, you can reduce the conversion time by using **Specify Options and Convert** to specify that only sequence files should be converted.

When **Specify Options and Convert** is selected, the dialog box shown in Figure 6-4.

Figure 6-4 Specify Options and Convert
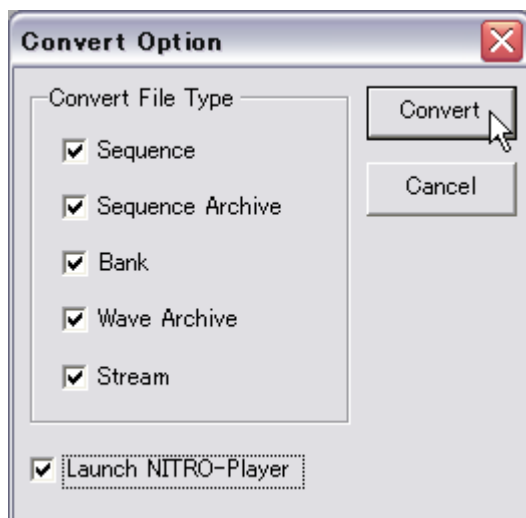
Only those file types that have been selected in the dialog box will be converted.

If the **Launch NITRO-Player** check box is selected, files will be converted and NITRO-Player will be launched.

Note: Be absolutely certain to check the file type of edited files. Invalid data may result if edited files are not converted.

6.8 Automatic Processing Before and After Conversion

A specified batch file (.bat extension) can be executed before and after conversion.

This feature can be used to copy files resulting from conversion to another location, change the names of files, etc.

1. To open the **Project Settings** dialog box, select **Project Settings** from the **File** menu.

2. Enter the full path names for the batch files to be executed both before and after conversion in the **Pre-conversion command** and **Post-conversion command** fields.

The specified batch file will be executed starting with the next conversion.

Figure 6-5 Automatic Processing Before and After Conversion
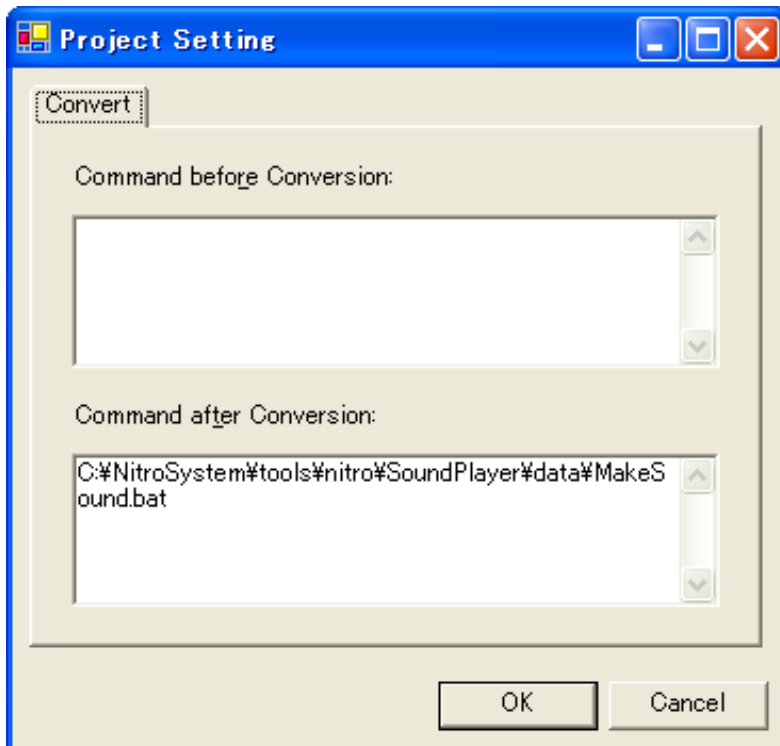
Windows is the registered trademark of Microsoft Corporation in the USA and other countries.

Other company and product names are the trademarks or registered trademarks of those respective companies.