

TASCAM GigaStudio 3.0 Instrument Editor User Manual

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Tutorial Instrument Index

To help you better learn how to work with the Instrument Editor, we have included a few tutorial samples for some of the chapters. Most of these can be found in the “Editor Tutorial Files” directory. For the Pattern Alternator & Legato Mode Rule, you will also be referred to the Vienna Symphonic Library (VSL) demo instrument directory.

The following sections will refer you to some tutorial samples.

How to Create Dimensions p.95

Bass-Sustain f folder
Bass-Sustain p folder

How to Map Samples - Advanced p.115

Tutorial Drum Kit folders

How to Use the wizard Tool p.150

Tutorial Electric Piano folders

How to Use the wizard Tool p.156

Tutorial Bass folders

Legato Mode Rule p.361

Example .wav audio files in Legato Mode folder

Legato Mode Rule p.363

Vienna Symphonic Library demo instruments folder

Pattern Alternator Rule p.371

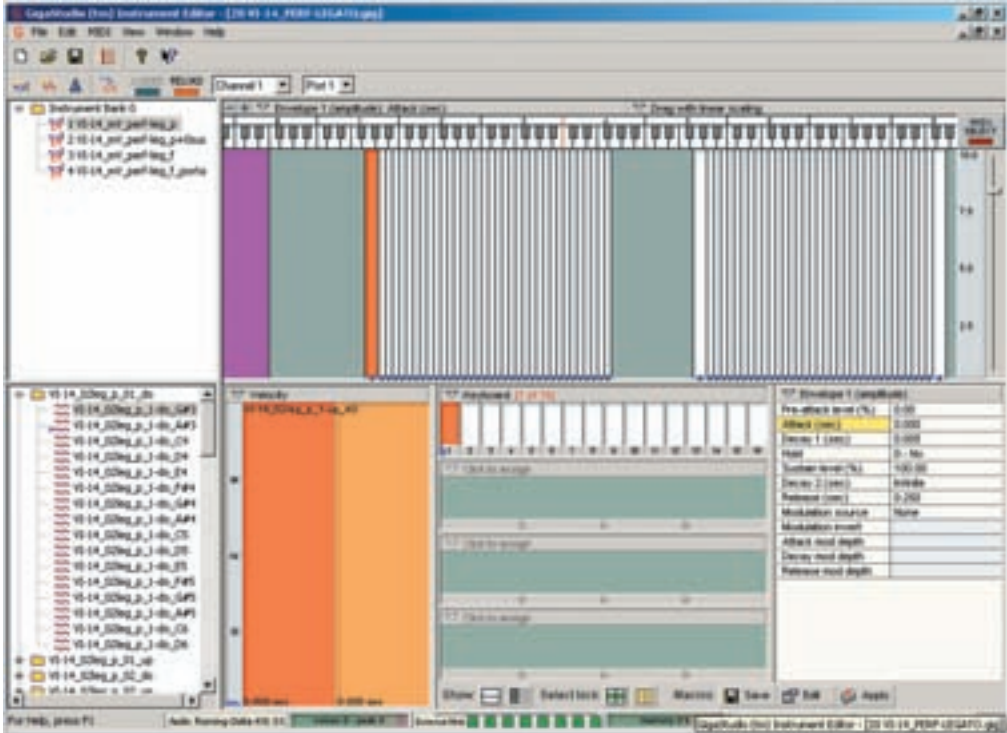
Vienna Symphonic Library demo instruments folder

Have fun!

GigaStudio 3.0 Instrument Editor

The GigaStudio Instrument editor is a separate program that works with GigaStudio. This program allows you to create your own instrument or edit existing Giga instruments.

The Instrument Editor has a bunch of new features for 3.0. The basic interface looks and operates very similar to the earlier versions but it is now a lot more convenient to work with when editing & designing instruments. In this section we will briefly describe these new features and how to use some of them. These are all covered in detail in the rest of this manual.



How to open the Instrument Editor:

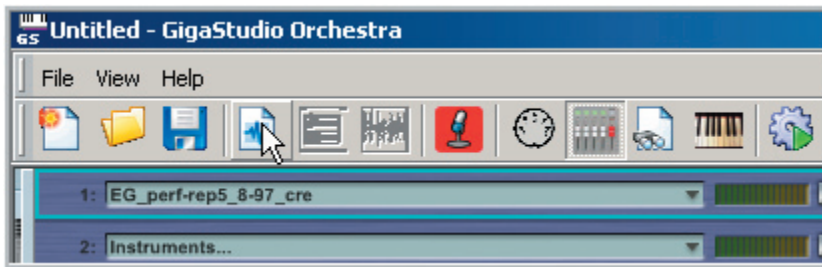
There are several ways to open the Instrument Editor depending on what you want to do and from where you want to launch it.

Opening the Instrument Editor from the GigaStudio Interface:

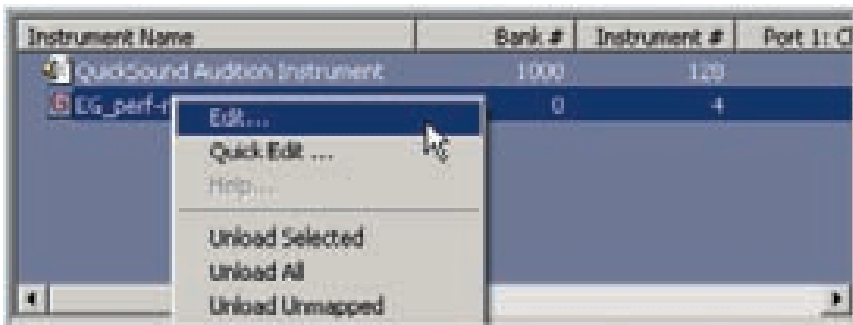


1. To open the Instrument Editor with a blank empty gig file, click on the [Instrument Editor] button.

The button is in the menu bar in the upper left section of the GigaStudio.



2. If you want to edit a loaded instrument in the Instrument Editor, [right-click] on that loaded instrument and choose [Edit...]



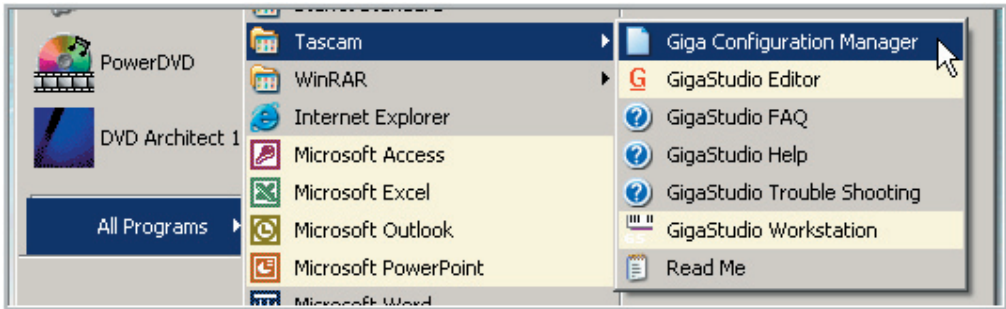
The Instrument Editor will open with the selected instrument loaded.

Note: The Instrument Editor will have to load the entire .gig file associated with the selected instrument. If the entire .gig file is not already loaded into the GigaStudio (buffered into RAM) then the Editor will take the time to load it for you. This can take a few moments if the instrument is large or complex.

Opening the Instrument Editor from the Windows Desktop:

You can open and use the Instrument Editor without having the GigaStudio Interface running. This is a good way to work when doing intense instrument construction.

1. You can launch the Editor from the Windows Start Menu.



2. You can launch the Editor by [double-clicking] on a shortcut on the desktop.



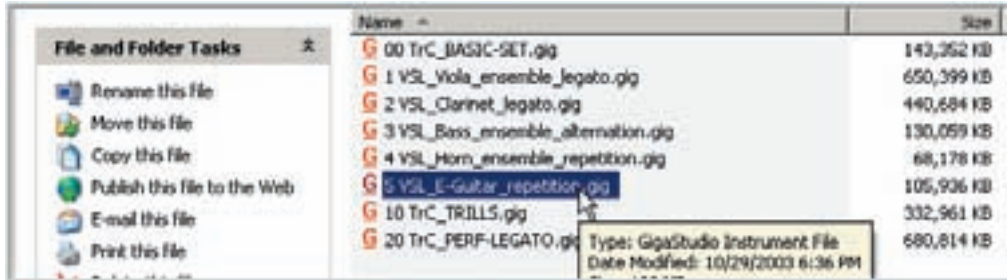
The installation of GigaStudio will create this shortcut if you select the option that allows it to create a shortcut on the desktop.

To create a shortcut manually, navigate to the Editor (or any application you wish to create a shortcut for) from the “Windows Start Menu” Instead of clicking on it and launching the program, hold down the [control key] and drag it out to the desktop. You can also right-click and choose [create shortcut] from the menu.

You can also drag the shortcut to the Windows toolbar and then launch the Editor with a single click on that icon.



3. Last but not least, you can launch the Editor by [double-clicking] on a .gig file from the Windows Desktop.

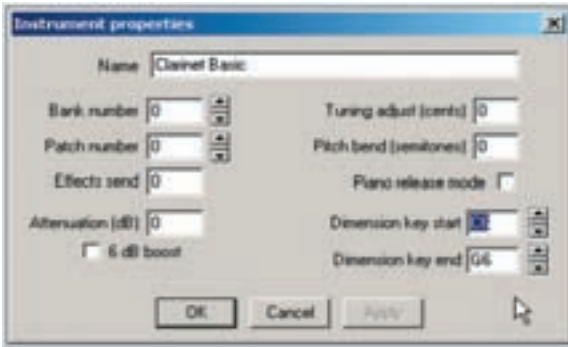


This will launch the editor and load the selected .gig file.

You can load multiple .gig files by selecting several of them and hitting the [Enter] key.

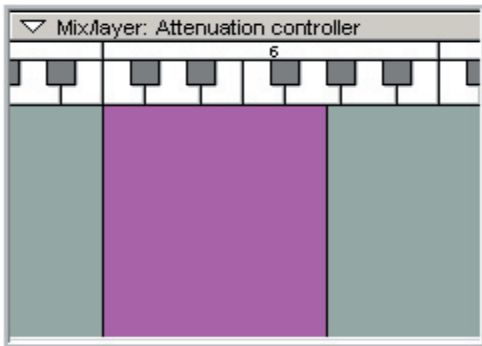
What's New?

New Key-Switch Regions:

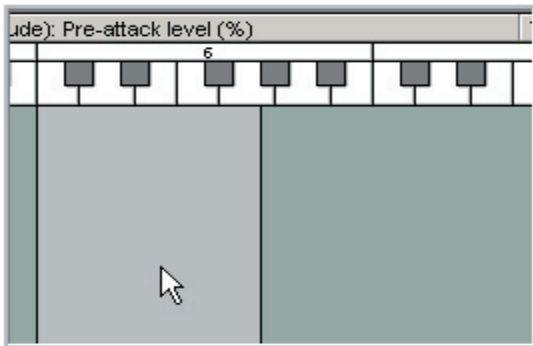


Until now, the note range of a Key-Switch Dimension was entered numerically in the Instrument Properties window.

You can still assign this here but it's much easier to use the new Key-Switch Region in the Region Window.



This shows up as a purple colored region that can be moved anywhere on the keyboard and stretched just like any other region to assign the Key-Switch note range.



If there are no Key-Switch dimensions, this region is gray.

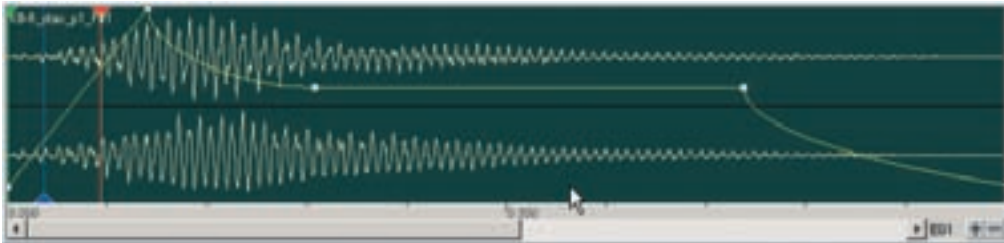
Graphical Wave-Form display with Parameters:

Now you can see the actual sample waveform of any sample you have selected. Also, various editing parameters are displayed on top of this waveform view and many can be edited directly from this window.

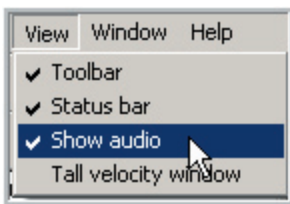
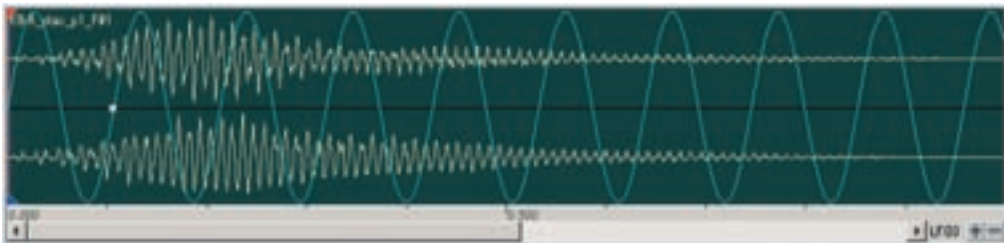
This allows you to accurately adjust things like the ADSR envelopes on top of the sample waveform and visually see where the “in and out points” are on the sample.

The edit graphics that show up on top of the waveform view will correspond to the editing parameters that are currently selected in the editor.

Example: ADSR Parameters Selected.

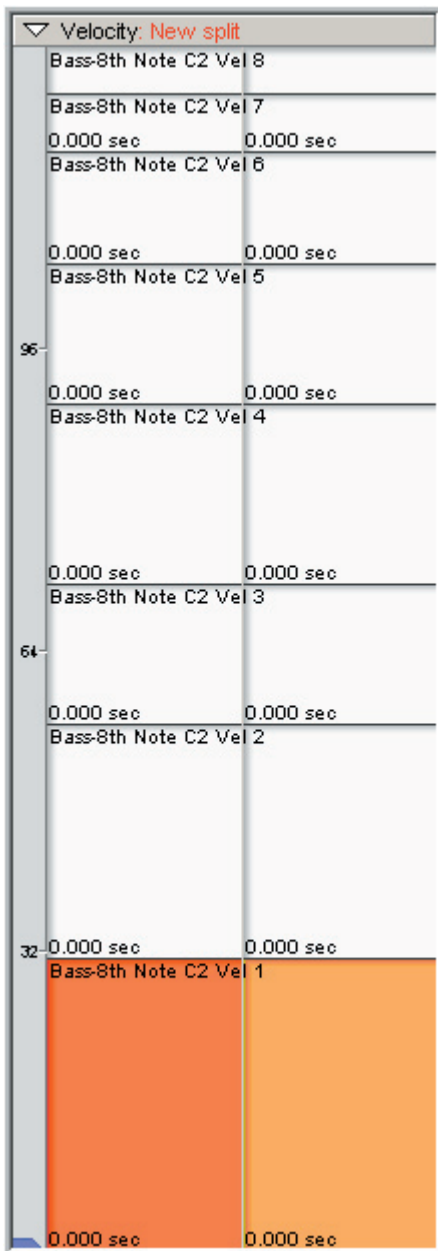


Example: Pitch LFO Parameters Selected.



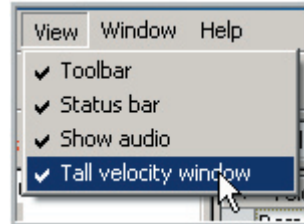
This feature is enabled or disabled in the View Menu.

Tall Velocity Window:



We now have the option of using a Tall Velocity Window that spans the height of the whole screen for those cases where you have a lot of velocity splits. This is much quicker and more intuitive than having to scroll up & down a shorter window.

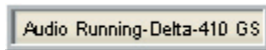
This feature is enabled or disabled in the View Menu.



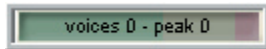
New Status Bar:



The status menus that are part of the Main GigaStudio Interface are now visible with the new Status Bar.



Audio Card



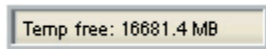
Voice Polyphony & Voice Peak Count



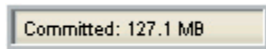
MIDI Port Lights



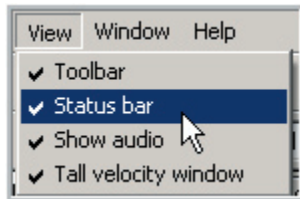
Amount of RAM used



Temp Space Available



Amount of Temp Space being used



This feature is enabled or disabled in the View Menu.

Easily Switch the order of Dimensions:

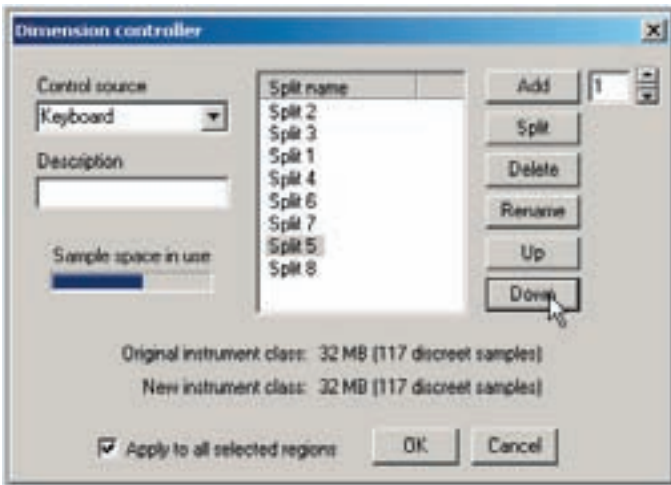
You can now easily change the order of Dimension and Velocity Splits using the [Up & Down] buttons in the Dimension Controller Windows. This is much faster than the old method of disassembling the instrument and reassembling it in a different order.

Just open a Dimension Controller Window and select the dimension names and move them up & down in the list until they are in the preferred order.

Key-Switch Before Reordering the Dimensions:



Use [Up & Down] Arrows to change the order:



Key-Switch After Reordering the Dimensions:



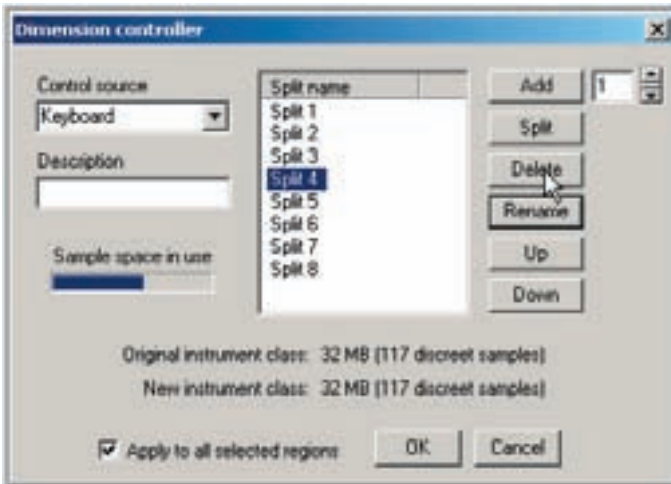
Delete Specific Dimensions:

You can now choose any specific dimension or dimensions and Delete them in the Dimension Controller Window.

Key-Switch Before Deleting:



Select a split and delete it:



Key-Switch After Deleting:



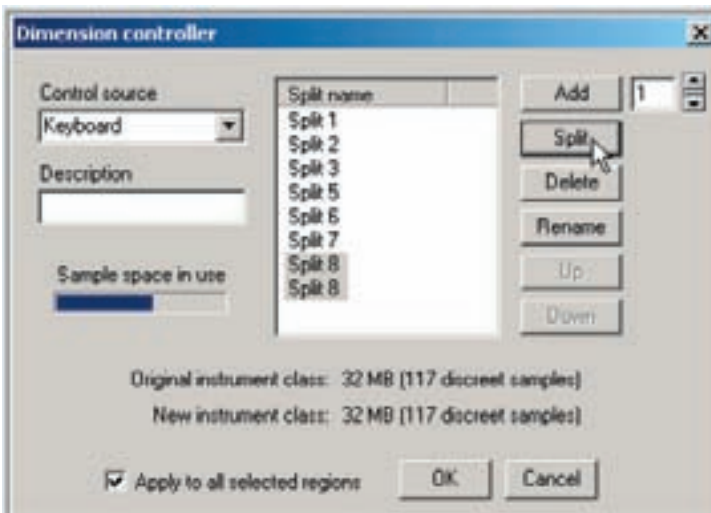
Add New Dimensions:

Use the [Add] button to Add new splits. You can add them one at a time or enter a number and then hit the [Add] button.



Split Dimensions:

A very handy tool is the ability to Split a dimension. This creates a clone dimension with identical parameters and samples. This saves having to manually recreate an identical split. To do this, choose a dimension and then use the [Split] button.



Naming Dimensions & Dimension Descriptions:

It's a very good habit to start naming your dimensions and entering descriptions as you design instruments. With 256 potential dimensions to keep up with, labeling is now more important than ever.

Once the dimensions and splits are properly named, these names and descriptions will show up as you select various dimensions in the Editor. This is essential to keeping your bearings when designing complex instruments. See the examples below to see difference.

Here is a complex mapping that is well labeled: Very obvious and intuitive.

The screenshot displays a software interface with two main panels. The left panel is a vertical axis with a scale from 32 to 96. It contains two orange rectangular blocks. The top block is labeled 'Bass-Sustain f E2' and has a duration of '0.000 sec'. The bottom block is labeled 'Bass-Sustain p E2' and also has a duration of '0.000 sec'. The right panel is a horizontal axis with a scale from 32 to 96. It contains several sections: 1. A section titled 'Mod: Sus-Stacc Switch: Sustain' with an orange block labeled 'Sustain' and a description 'Staccato'. 2. A section titled 'RTrg: Ambience Release: Note On' with an orange block labeled 'Note On' and a description 'Ambience'. 3. A section titled 'Kybd: Articulations: Normal' with four sub-sections: 'Normal', 'Near Bridge', 'Vibrato', and 'Non Vibrato'. 4. A section titled 'Click to assign' with a green block.

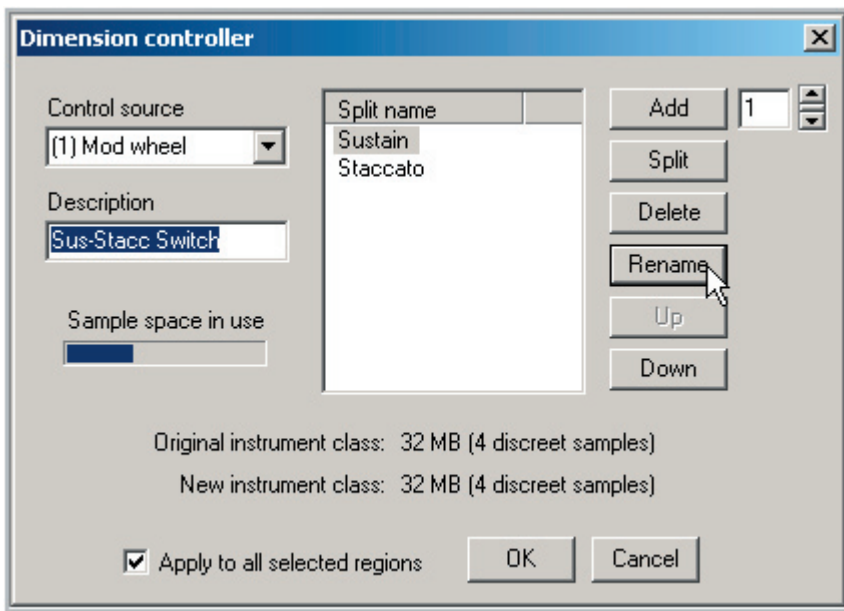
Here is the same thing without labels: Impossible to find your way around.

The screenshot displays the same software interface as above, but with all labels removed. The left panel shows two orange blocks with durations of '0.000 sec'. The right panel shows several sections: 1. A section titled '(1) Mod wheel: New split' with an orange block labeled 'New split' and a description 'New split'. 2. A section titled 'Release trigger: New split' with an orange block labeled 'New split' and a description 'New split'. 3. A section titled 'Keyboard: New split' with four sub-sections, each labeled 'New split'. 4. A section titled 'Click to assign' with a green block.

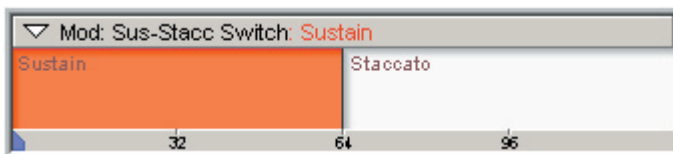
Names & Dimension Descriptions are entered in the Dimension Controller Window. To rename a Dimension Split, select it and click on the [Rename] button. Then enter a new name. To change the Description name, just back over the text under “Description” and replace it with something else.

In this example, The Dimension Description is set to “Sus-Stacc Switch” indicating that this dimension switches between long sustaining notes and short staccato notes.

The Split names are set to “Sustain” and “Staccato”



Here is the result:



More Dimensions:

One of the biggest new features of GigaStudio 3.0 is a drastic increase in the amount of dimensions from 32 to 256. This allows a lot more velocity, MIDI, Key-Switch & other dimension switches to be utilized without running out of dimensions.

Example: 8-Velocities/4 Key-Switch/Release Trigger/Mod Wheel Splits

The screenshot displays a piano roll on the left and a control panel on the right. The piano roll shows eight velocity splits for a Bass-8th Note C2, with velocities 1 through 8. The control panel shows four dimension splits: Kybd: Articulations (Sustain, Staccato, Trill, Tremolo), RTrg: Hall Ambience (Note On, Ambience), Mod: Vibrato (Non-Vibrato, Vibrato), and a 'Click to assign' button. The piano roll and control panel are both split into four vertical sections corresponding to the velocity splits.

A good example of how more dimensions will really help is found in the Vienna Symphonic Library. Due to the large number of switches needed for the VSL legato instruments, they had to come up with some clever and tedious mapping techniques to get their wonderful results.

They had to use up the whole range of MIDI notes (0-127) to fit the extra samples into the instrument. This involved mapping samples beyond the range of most keyboards.

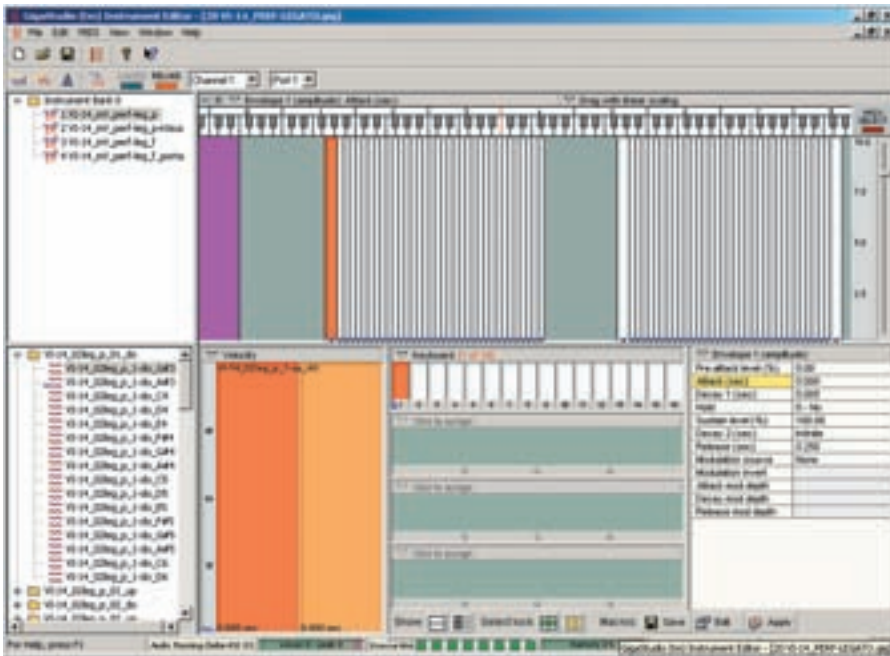
They were limited to one velocity split.

The loud and soft variations had to be split into separate instruments.

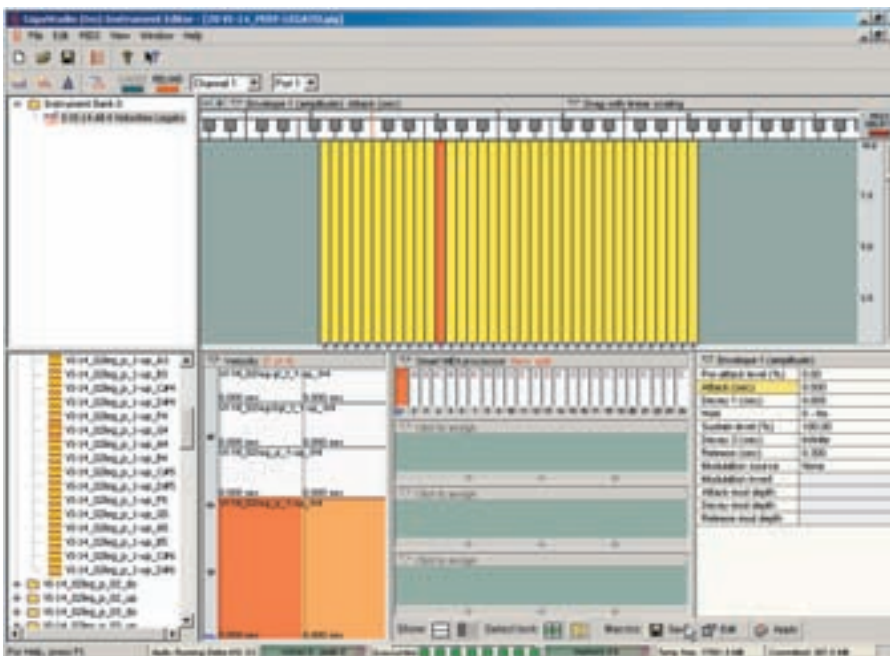
Now, with so many more dimensions, they can have several velocity splits and use less notes on the keyboard. The following examples show a before and after of this.

These extra dimensions combined with the ability to stack multiple instruments on a MIDI channel leave room for the most complex and creative instruments ever.

Legato Instruments with only 32 Dimensions:



Legato Instruments using 256 Dimensions:

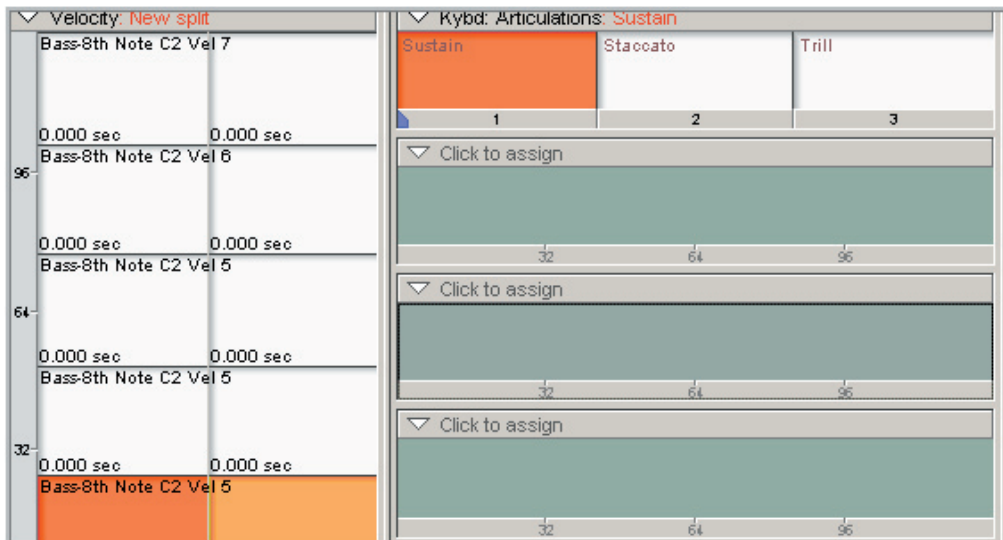


Use Any Number for Dimension Splits:

You can now use any number for Velocity and Dimension splits in the Editor. In the past, you had to deal with 2-4-8-16 or 32 splits but nothing in between.

If you wanted 3 velocity splits, you had to create 4 splits and then hide one of them. Now you can simply create the amount you wish and not have to keep up with a bunch of empty dimensions.

Example: 5 Velocity Splits and 3 Key-Switch Dimension Splits



The screenshot displays a music editor interface with two main panels. The left panel, titled 'Velocity: New split', shows a piano roll with five horizontal bars representing notes. Each bar is labeled 'Bass-8th Note C2 Vel [value]' and has a duration of '0.000 sec'. The velocity values are 7, 6, 5, 5, and 5 from top to bottom. The right panel, titled 'Kybd: Articulations: Sustain', shows three columns labeled '1', '2', and '3'. The first column is highlighted in orange and contains the text 'Sustain'. Below this, there are three rows, each starting with a dropdown arrow and the text 'Click to assign'. Each row has three columns corresponding to the articulation columns, with numerical values 32, 64, and 96 below each column.

You still use the same resources for dimensions but visually; you will only see the ones you want.

For example, let's say you want 5 splits. In the past, you would have to use 8 splits and then make 3 of them empty or duplicates and ignore them. (Or hide them if they were velocity splits) Now with 3.0, you simply create 5 splits and that is all you see and work with. You still use up 8 splits of resources like before but you don't have to keep up with the extras unused splits now and editing is much less cluttered and more intuitive.

New dimension: Round Robin

This allows different samples to be triggered each time you play a note. The order is pre-determined based on the order of the dimensions.

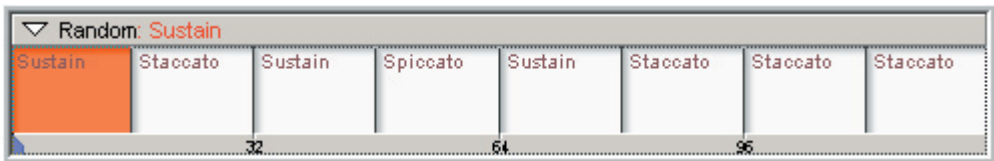
In this example, every time you play a note, the articulation would automatically change in the order of the dimension. (Sus-Stac-Sus-Spicc-Sus-Stac-Stac-Stac)



New dimension: Random

This works like the Round Robin but in this case the samples are triggered randomly instead of in sequence.

In this example, we have the same sequence of articulations as we had in the Round Robin example. However, the dimension is set to “Random” As you play notes, these articulations will automatically change randomly.



New dimension: Smart MIDI

The Smart MIDI dimension ties into the Smart MIDI tools that allow a variety of new ways to trigger samples. For example, Smart MIDI is used to access the Pattern Alternator, Repetition Tool and Legato Mode.



The iMIDI Rule Manager has to be launched and setup for the Smart MIDI Dimension to do anything. This is a complex tool that is explained in chapter “10-00 Setting Up MIDI Rules”

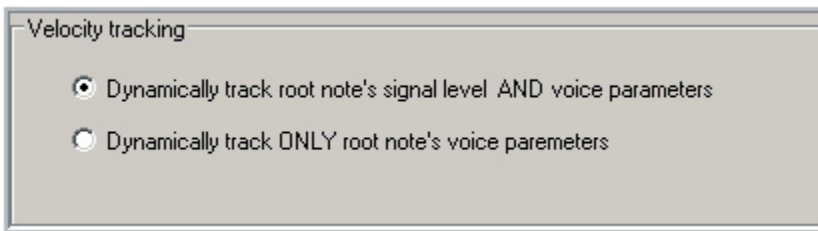
Release Trigger with Tracking:



This feature dynamically tracks the volume of a sample in real time and plays the release trigger back at a matching volume. This way the release trigger plays back at the proper volume level no matter when you release the note. For example, let's take an instrument that relies on hall ambience in the release tails. Some samples are recorded with dynamics, swells, crescendos & diminuendos. If you released one of these samples during the quiet part of a swell, the release sample would normally play back too loud. If you released during the loud part, the release sample might sound about right. However, with this tool, the release sample will playback at a volume level that matches the volume of the sample at the time you release the note.

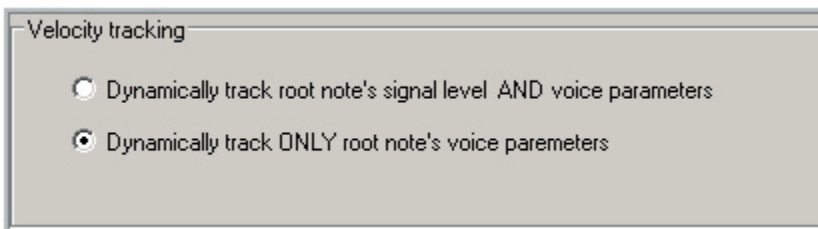
This tool has two modes:

Track audio signal AND voice parameters:



This mode tracks the volume as described earlier and it tracks the voice parameters like the ADSR envelopes.

Track Only the voice parameters: (Ignores audio level)



In this mode, it will ignore the audio level and just track the voice parameters.

The overall volumes of the release tails can still be adjusted with the attenuation setting on a sample-by-sample basis. Between this and the tracking, you can have flawless release ambience levels at all times.

New Parameter Edit Display:

Envelope 1 (amplitude)	
Pre-attack level (%)	0.00
Attack (sec)	0.000
Decay 1 (sec)	0.005
Hold	0 - No
Sustain level (%)	100.00
Decay 2 (sec)	Infinite
Release (sec)	0.300
Modulation source	None
Modulation invert	
Attack mod depth	
Decay mod depth	
Release mod depth	

The Parameter Tabs have been replaced with a whole new display that offers several advantages.

- It allows a lot more room for complete parameter descriptions & names that had to be cut short or abbreviated in the earlier version.
- It also provides the ability to add extra parameters for 3.0 and the future.
- This new system allows numerical entry of the parameter settings as before but now you can also use the mouse by dragging up & down on the parameter settings.
- You can view all the parameters on a single scrollable screen or in individual sections.

All parameters	
Depth (cents)	0
Attack (sec)	0.000
LFO 1 (amplitude)	
Frequency (Hz)	3.00
Internal depth (0-1200)	0
Control depth (0-1200)	
Control source	0 - Internal
Phase flip	0 - No
Sync	0 - No
LFO 2 (filter)	
Frequency (Hz)	
Internal depth (0-1200)	
Control depth (0-1200)	
Control source	
Phase flip	
Sync	
LFO 3 (pitch)	
Frequency (Hz)	5.00
Internal depth (cents)	0
Control depth (cents)	
Control source	0 - Internal
Sync	0 - No
Filter	
Filter type	0 - None
Turbo LPF	
Clear All (0-127)	

LFO 3 (pitch)	
Frequency (Hz)	5.00
Internal depth (cents)	0
Control depth (cents)	
Control source	0 - Internal
Sync	0 - No

LFO 2 (filter)	
Frequency (Hz)	
Internal depth (0-1200)	
Control depth (0-1200)	
Control source	
Phase flip	
Sync	

Envelope 1 (amplitude)	
Pre-attack level (%)	0.00
Attack (sec)	0.000
Decay 1 (sec)	0.005
Hold	0 - No
Sustain level (%)	100.00
Decay 2 (sec)	Infinite
Release (sec)	0.300
Modulation source	None
Modulation invert	
Attack mod depth	
Decay mod depth	
Release mod depth	

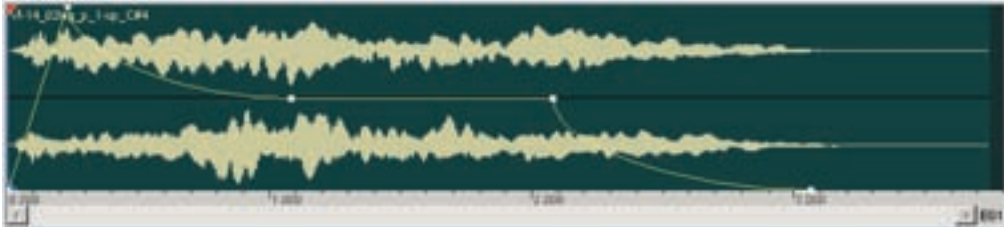
Interactive Editing Parameters:

There are three main areas where parameter edits can be adjusted. These three areas are locked together so that when make changes in one area, they are also changed in real-time in the others. This way you can see what is happening all at once while you make changes to the instrument.

1. The Parameter Edit Display

Envelope 1 (amplitude)	
Pre-attack level (%)	0.00
Attack (sec)	0.000
Decay 1 (sec)	0.005
Hold	0 - No
Sustain level (%)	100.00
Decay 2 (sec)	Infinite
Release (sec)	0.300
Modulation source	None
Modulation invert	
Attack mod depth	
Decay mod depth	
Release mod depth	

2. The Waveform Window



3. The Drag Tools in the Region Map

Envelope 1 (amplitude): Decay 2 (sec)

- EG1 Pre-attack level
- EG1 Attack time
- EG1 Decay 1 time
- EG1 Sustain level
- ✓ EG1 Decay 2 time
- EG1 Release time
- LFO1 frequency
- LFO1 internal depth
- LFO1 external depth

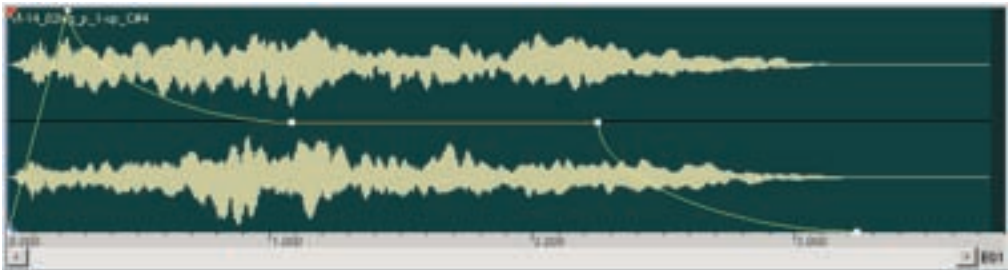
Anytime you select a parameter in one area, it will also select in the other areas.

Envelope 1 (amplitude)	
Pre-attack level (%)	0.00
Attack (sec)	0.230
Decay 1 (sec)	0.850
Hold	0 - No
Sustain level (%)	49.00
Decay 2 (sec)	1.170
Release (sec)	0.905
Modulation source	None
Modulation invert	
Attack mod depth	
Decay mod depth	
Release mod depth	

In this example, in the Parameter Edit window, we have the Amp envelope section selected.

The Attack parameter is highlighted.

The Waveform view displays the ADSR envelope.



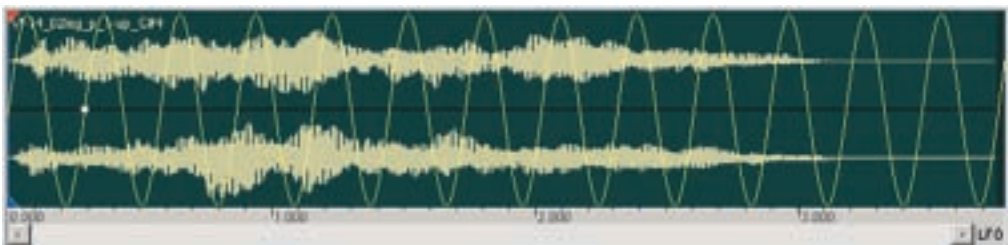
The Drag Tools Menu is also set to the Amp Envelope Attack.

Envelope 1 (amplitude): Attack (sec)

LFO 1 (amplitude)	
Frequency (Hz)	3.54
Internal depth (0-1200)	0
Control depth (0-1200)	
Control source	0 - Internal
Phase flip	0 - No
Synch	0 - No

However, if we go back to the Parameter Edit window and change to the LFO1 section, the Waveform View and the Drag Tools Menu will change accordingly.

Waveform View displays LFO graphic.



Drag Tools Menu changes to LFO Frequency

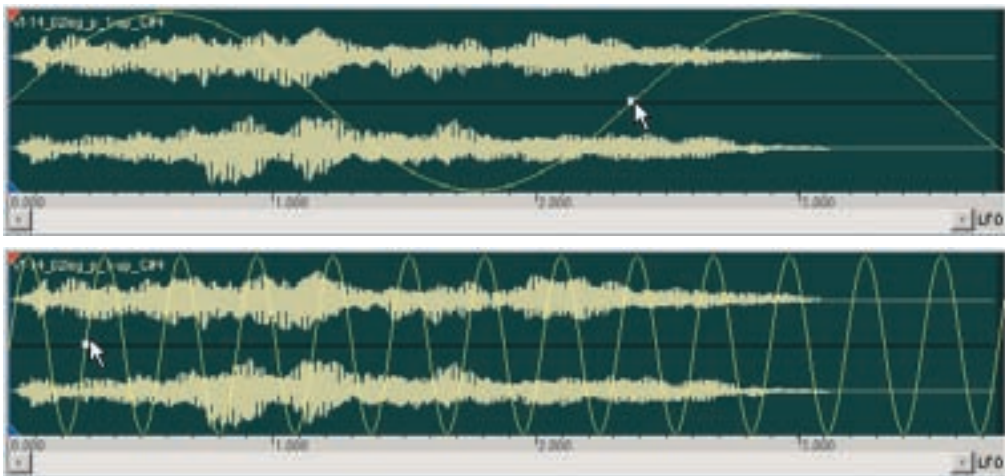
LFO 1 (amplitude): Frequency (Hz)

At this point, the LFO frequency can be edited from any of these three areas and the other two areas will also change.

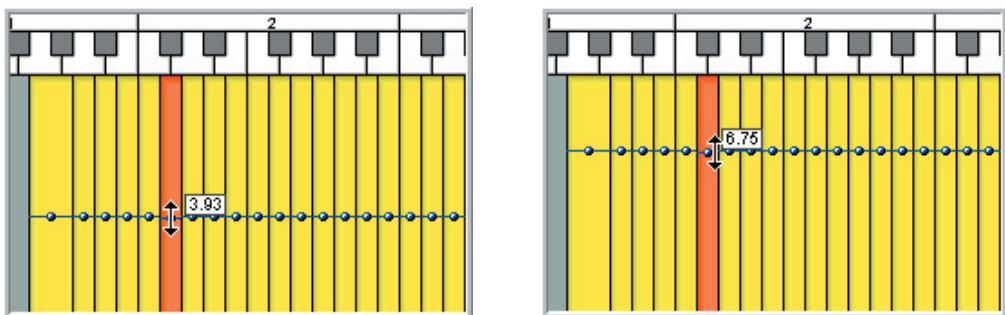
▼ LFO 1 (amplitude)	
Frequency (Hz)	3.46
Internal depth (0-1200)	0
Control depth (0-1200)	
Control source	0 - Internal
Phase flip	0 - No
Synch	0 - No

The LFO Frequency can be typed in or dragged up & down with the mouse in the Parameter Edit window.

You can drag the little square in the Waveform View to change the LFO Frequency.



You can use the blue dots in the Drag Tools.



Whichever method you use, the other two areas will update to match. Any parameter that you highlight in the Edit Parameter window will be selected in the Drag Tools Menu and Vice-Versa.

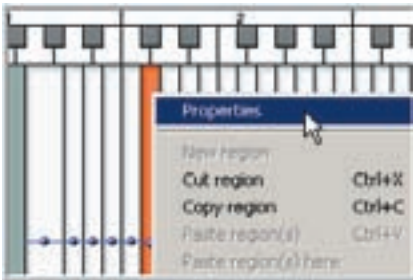
Assign Key-Groups on Multiple Regions at once:

A Key-Group is an advance version of the Hi-Hat note cutoff that has been around on samplers for many years. In the GigaStudio, you can have as many key-groups as there are MIDI notes. (Up to 127) Notes assigned to the same key-group will cut each other off when played.

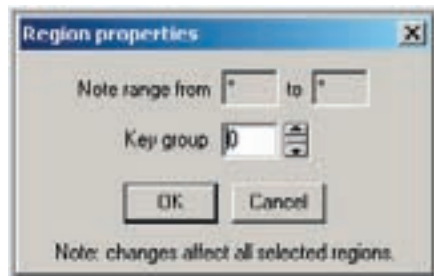
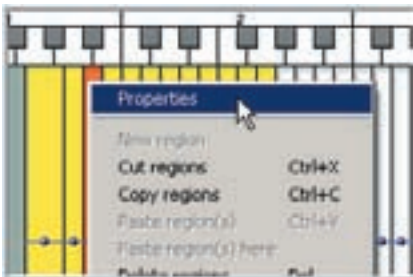
In the past, these had to be assigned one note at a time, which could be very tedious if you wanted to have a bunch of regions sharing a Key-group. Now you can select any amount of regions and assign them to a key-group all at once.

Key-groups are assigned by [right-clicking] on a region or group of selected regions. Then enter the desired Key-group. Zero is the default setting. Regions assigned to zero will not be affected by Key-grouping so you need to use 1-127 for regions groups that you want to have cut each other off.

Single Region Key-Group:



Multiple Regions Key-Group:



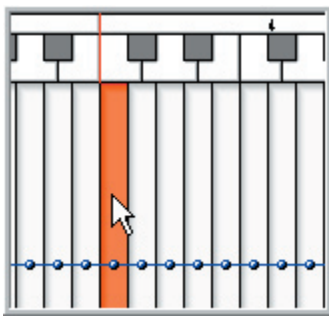
Combine more than 4 instruments:

In the past, you were limited to combining a maximum of 4 instruments at a time. Now, you can combine as many instruments as the dimension resources will allow. No more need to combine instruments and then combine the combinations. Also, you can combine odd numbers of instruments together.

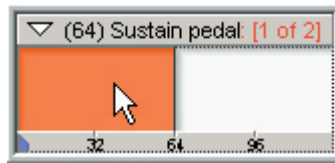
Jump to Selected Regions:

This has to be hands down one of the nicest features in the editor. The editor will now highlight the samples in the Sample Window whenever you make a selection while editing.

To show how helpful this feature is, imagine you want to edit the sample assigned to the middle velocity of middle C, Pedal Down on a Piano. In the past you would have to hunt and peck through the Sample Window folders to find it. If the sample folders & names are not organized or obvious, this could make it very difficult to find a specific sample.

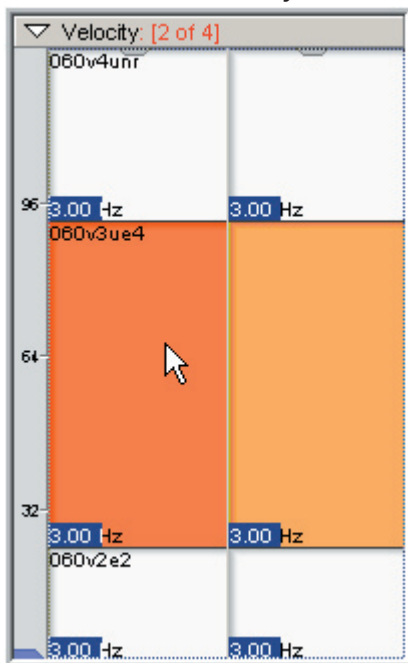


However, with “Jump to Selected Regions” enabled, all you have to do is select the C-4 Region.

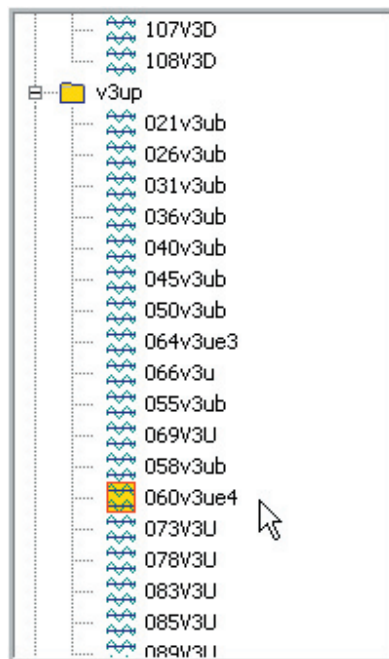


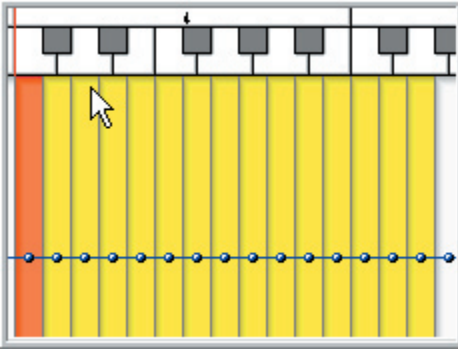
Select the Pedal Down Dimension.

Select the Middle Velocity.



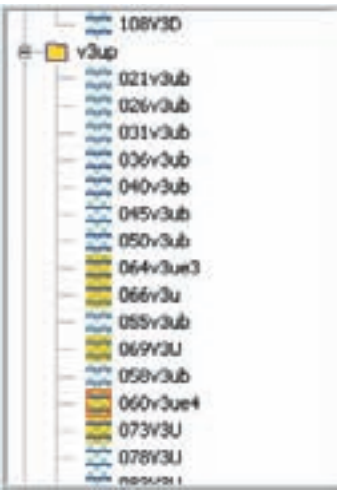
The sample then lights up.





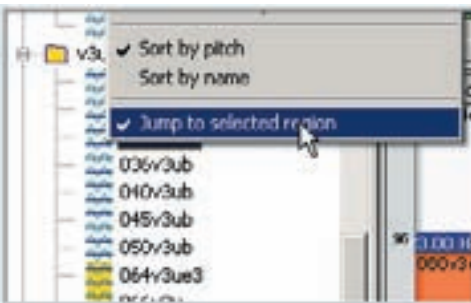
If you select several regions or several dimensions, all the samples used will highlight in the Sample Window.

All the regions are highlighted yellow while the most recently selected region (C-4) is orange.



Notice that all the samples are highlighted in yellow but one of them also has an orange border around it.

This orange border represents the most recently selected dimension. In this case that is C-4.



Enable this feature by [right-clicking] in the Sample Window and choosing “Jump to Selected Region”

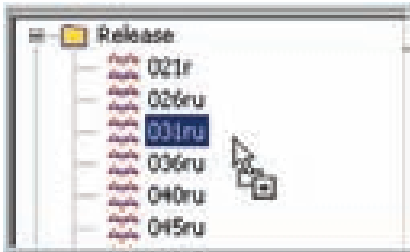


Also, when you have the MIDI Select feature enabled, the samples will also highlight as you play them in real time.

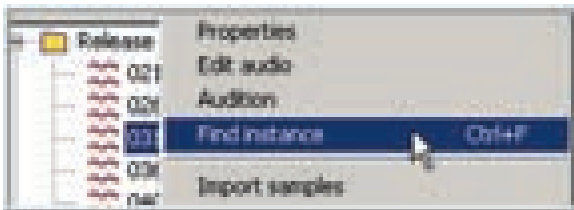
You can then find samples really fast by just playing the MIDI keyboard and manipulating MIDI controllers.

Find Instance:

This is the opposite of Jump to Selected Regions. In this case, you select a sample in the Sample Window and use this feature to find where it is mapped in the instrument.

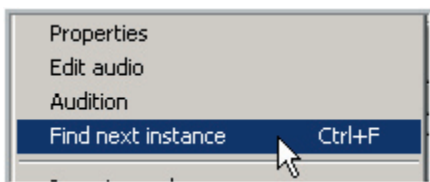
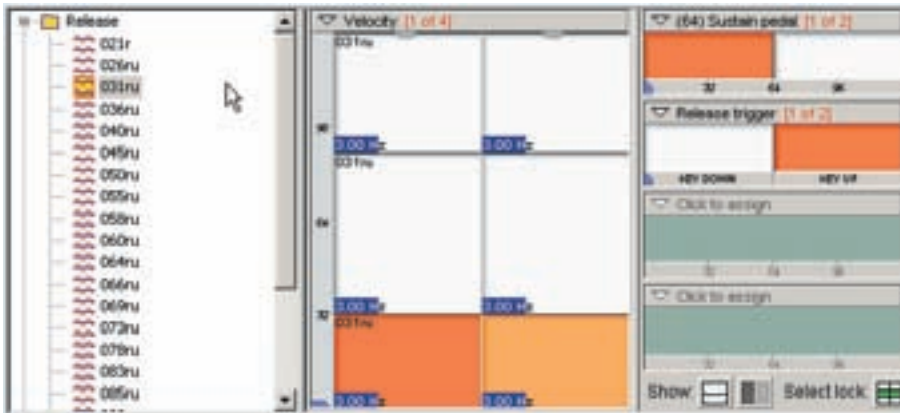


Choose a sample in the Sample window and [right-click] on it.



Select "Find Instance" from the menu that comes up.

The exact region, velocity and dimension split that this sample is assigned to will be selected in the Editor.



Repeat this to find the next instance if the sample is used more than once.

You can also use the keyboard shortcut. [Ctrl] + [F]

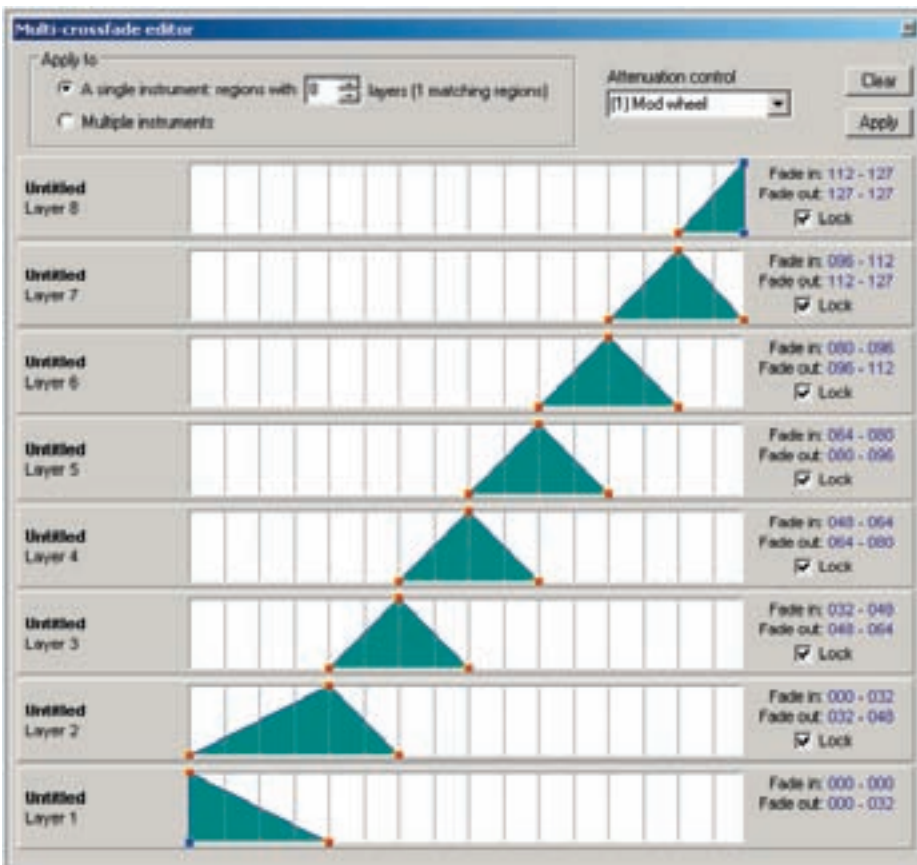
More Layers:



In addition to many more dimensions, we now have more layers as well. Instead of 4-stereo or 8-mono layers, you can now have as many layers as there are dimension resources available.

8-way Cross-Fade Layers:

The Cross-Fade layer tool can now handle up to 8 stereo cross-fade layers. This allows for even smoother MIDI controlled crescendo cross-fades.

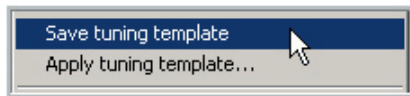
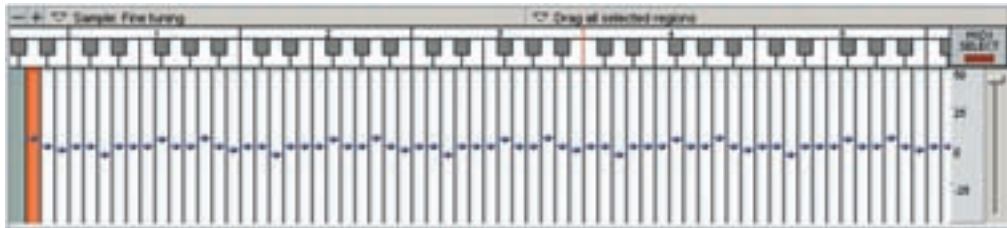


Custom Tuning Templates:

You can now save and apply your own custom tuning templates. This will allow a huge variety of possible tunings from equal tempered piano to various micro tuned ethnic instruments.

Simply make fine tuning adjustments to the regions and save the template. You can then tune any other instrument you create in the future with these tunings instantly!

Make Fine Tuning Adjustments:

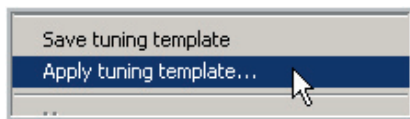


[Right-click] in Bank Instrument Window and Choose Save tuning template:

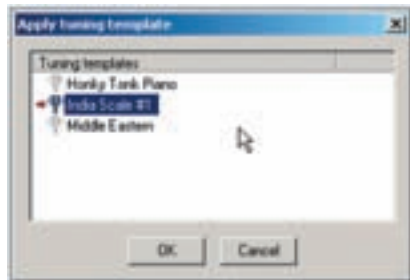


Give it a name and Save:

To apply this tuning template to another instrument, load that instrument into the Editor.



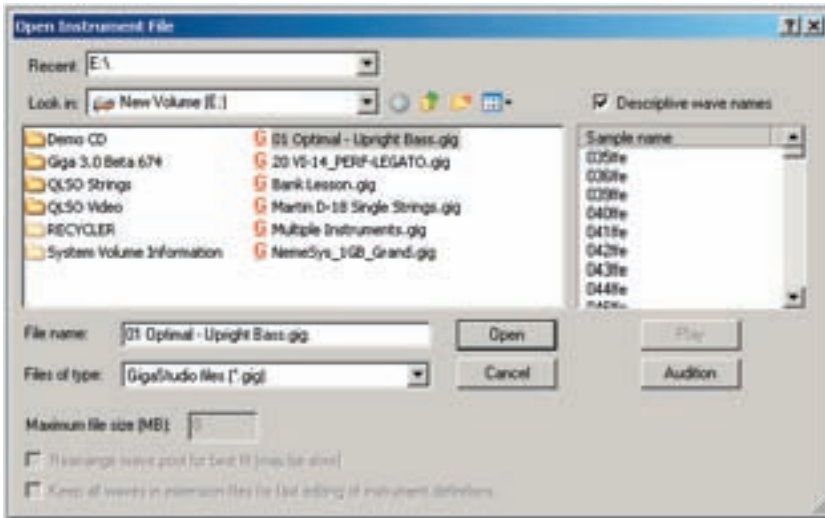
[Right-click] in the Bank Instrument Window and Choose Apply tuning template:



Choose the desired template from the list of available Tuning Templates.

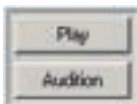
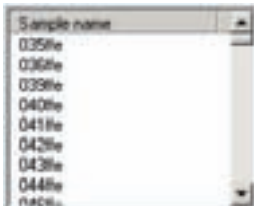
This will set all the fine-tuning settings to the template tuning.

Redesigned Open and Save interfaces:



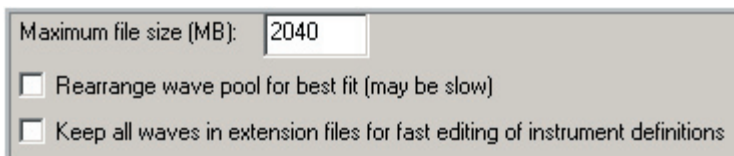
Anytime you choose to Open, Save or Import from the File Menu, you will now get a customized Browsing window. It is very similar to a standard Windows Open and Save screen but with some Giga Specific additions.

You can see a list of all the samples inside a selected .GIG file from here and you can view them as the descriptive sample names or sample numbers.



You can play the individual samples or hear the audition sample from here.

There are also some new saving options specific to the GigaStudio.



Separate the Parameters from the Samples:

There is now an option to save the parameters separately from the samples, creating a two-part file. When this is done, there is no need for the entire instrument to load when major changes to the file architecture occur. You still hit the [RELOAD] button the same way as before but the update is much faster now.



Most of the instrument parameter edits can be heard in real time as you work on the instrument.

The Load Indicator light would stay green.

This still works the same in 3.0



A few edits (like changing the note range) will not be heard in real time but simply require a quick save.

The Load Indicator light will turn from Green to Yellow.

This still works the same in 3.0



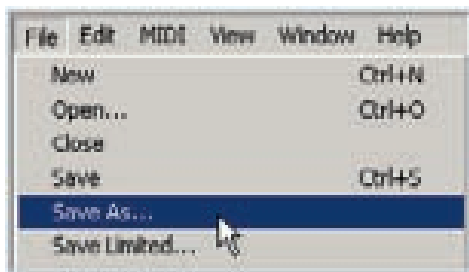
Major edits that would change the architecture of the .gig file would require a complete saving of the whole instrument.

The Load Indicator Light turns Red.

This will still work the same in 3.0 if the parameters are locked into the .gig file.

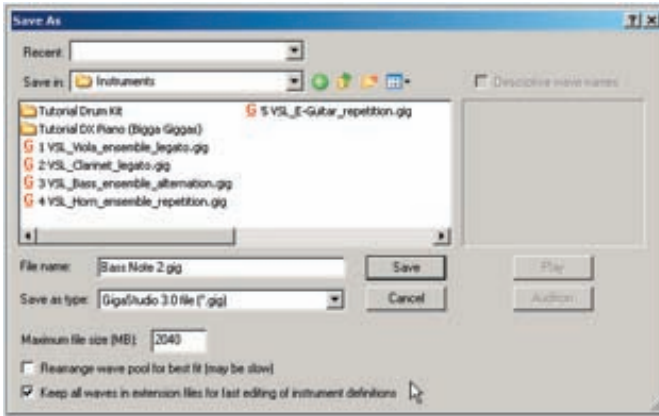
However, we now have the option to save these parameters separately. You will still need to hit the [RELOAD] button but the save will be very quick.

To do this, you need to re-save the .GIG file a certain way.

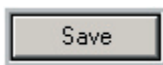
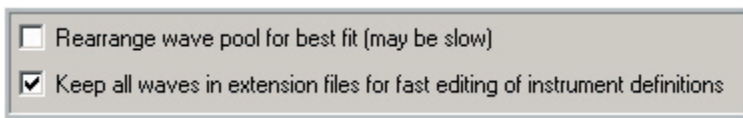


Go to File/Save As

GigaStudio file browser window:





In the new GigaStudio Browser screen, look in the lower left for the check box: “Keep all waves in extension files for fast editing of instrument definitions”



Check that box and then Save the file.

This will create two files, a .GIG file (which contains the parameters) and an Extension file (which contains the samples)

 Giga Piano Edit.gig	968 KB	GigaStudio Instrument File
 Giga Piano Edit.gx01	661,787 KB	GX01 File

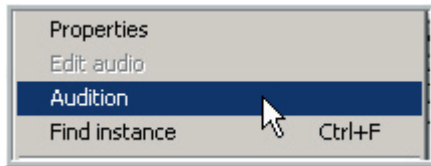
From here on out, you can make major changes to the file in the Instrument Editor and you will no longer have to wait for the complete .GIG file to save every time.

Things to keep in mind:

- This file will load just fine in the main GigaStudio Interface but you need to make sure that both files are together on the hard drive, or this will not work.
- If you want to simplify things, you can re-save this split file again when you're done editing. Save it again but with the checkbox “un-checked” and it will merge them back together into a single .GIG file that contains the parameters and the samples as before. This is something that library developers might want to do to keep every thing together and make for a cleaner release.
- This is most useful for large .GIG files. It's probably not worth the effort for smaller files, which would reload fairly quickly.

Audition Samples in Editor:

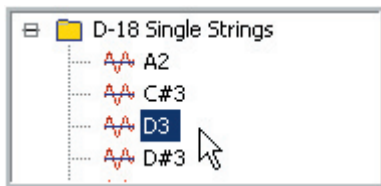
You can now select a sample in the Sample Window and hear what it sounds like.



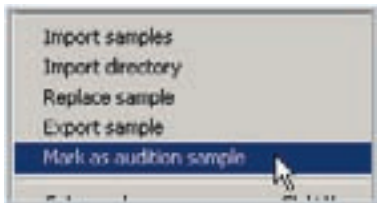
To audition a sample, [right-click] on the sample in the Sample window and choose “Audition” from this menu. The sample will then play.

Mark as Audition Sample for the Gig File:

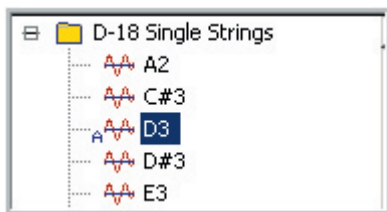
This is a new feature that allows you to select a specific sample to be the audition sample. This can be a quick demo or even an audio tutorial specific to the .GIG file. From the GigaStudio interface, Audition Samples can then be played from the Loader before loading the instrument to hear what the instrument will sound like.



To mark a sample as the Audition Sample, [right-click] on a sample in the Sample Window



Select “Mark as audition sample” from the menu.

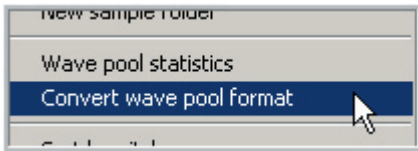


The sample will now have a little “A” next to it, indicating that it is now the Audition Sample.

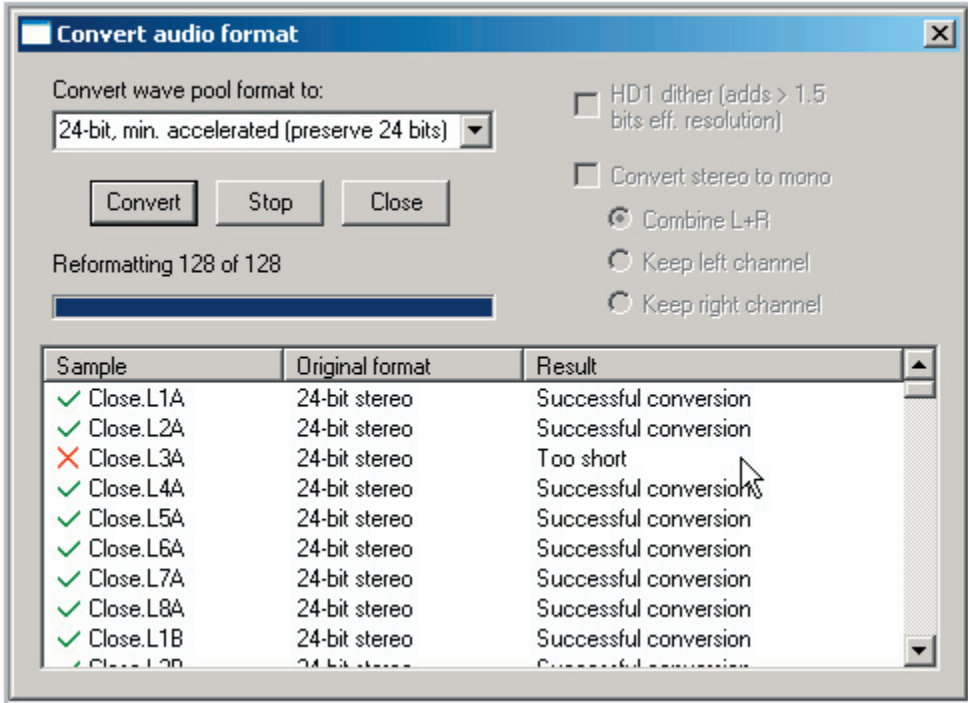
If you do not set an audition sample, it will default to the sample with the first alphabetical name.

Convert Wave Pool Format:

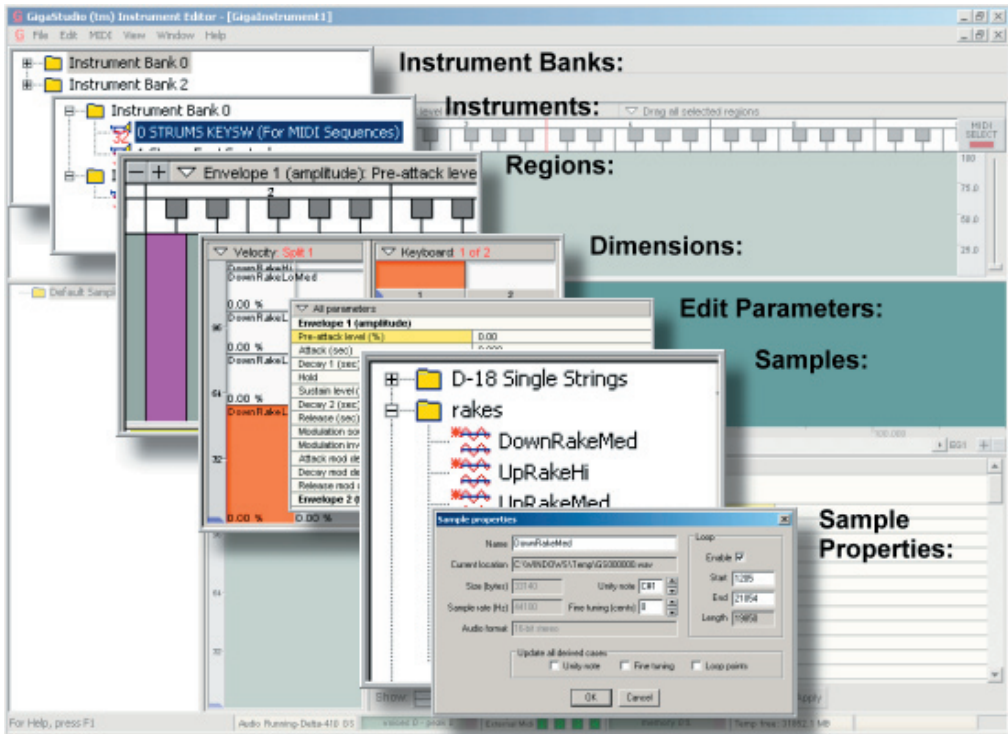
This feature allows you to change convert all the samples in a .GIG file to various sample rate formats or convert the samples from Stereo to Mono. This way you can work on high resolution uncompressed 24 bit stereo samples and then save various versions from uncompressed 24-bit stereo on down to compressed 16-bit mono and anything in between.



This is accessible by [right-clicking] in the Sample window and choosing "Convert wave pool format" in the menu.



Anatomy of a .GIG File:

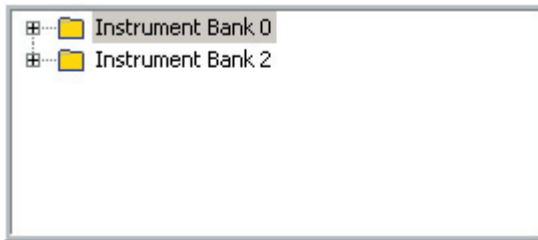


Here is a graphic representation of the components of a GigaStudio File. Getting familiar with these will make it much easier to know what you are doing when editing and creating GigaStudio Instruments.

GigaStudio File (.GIG File) Components:

- Banks**-A GIG file can have up to 127 Banks
- Instruments**-Each Bank can have up to 127 Instruments
- Regions**-Each Instrument can have up to 127 Regions (Or notes)
- Dimensions**-Each Region can have up to 127 separate Dimension Splits. (Velocity and Stereo Splits are counted as dimension Splits)
- Parameters**-Each Dimension has a Sample assigned to it and over 100 editing parameters.
- Samples**-Samples consist of standard wave files.
- Sample Settings**-Each sample has a variety of settings including unity note, sample & bit rate and loop points.

Banks:



A GigaStudio File can hold up to 127 Banks and each Bank can have up to 127 Instruments.

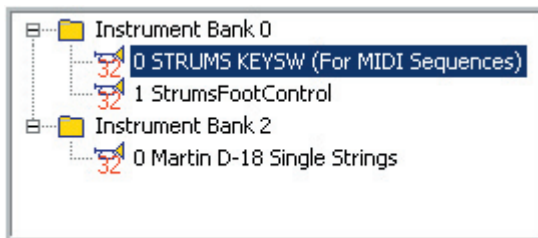
This allows for a potential of 16129 potential instrument patch changes.

GigaStudio responds to standard MIDI Bank and Patch changes. Without Banks, the GigaStudio would only be able respond to 127 patch changes.

Banks also help to organize instruments within the Instrument Editor. They give you a folder structure to work with when you have a large number of multiple instruments to deal with inside the same GIG File.

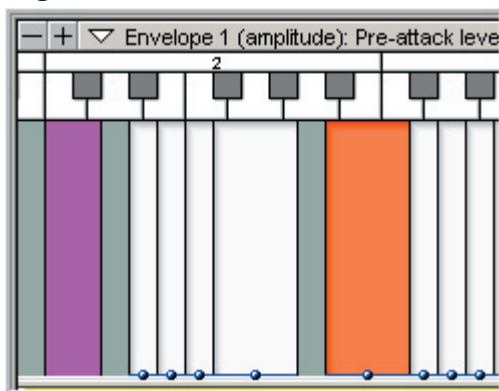
Banks are the top level of the GigaStudio file.

Instruments:



The next level is the instrument. GIG files can have many instruments inside them and these instruments can even share common samples without using any extra hard drive space or sample buffering RAM. Each instrument can have a discrete Bank and Patch change.

Regions:

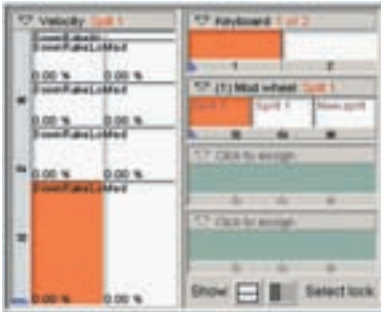


Each Instrument can contain up to 127 Regions or keysplits. However, it is more common to use 88 or less since most MIDI keyboards don't go beyond 88 notes. A Region can range from a single note or span all the way across the whole keyboard and anything in between.

The gray spaces are blank notes with not regions assigned to them.

The purple region represents the range of the Key-Switch dimension.

Dimensions:

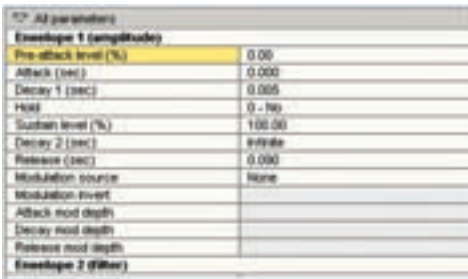


Inside each Region is a number of Dimension Splits. Each Region can have up to 127 splits.

Dimensions include Stereo L & R splits, Velocity Splits, Release Triggers, Key-Switches and MIDI controlled Splits.

A Dimension tells GigaStudio what sample to trigger based on the position of a variety of MIDI controls.

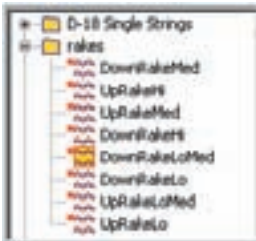
Edit Parameters:



Each of those Dimensions can have its own complete individual set of over 100 Edit Parameters.

Amplitude & Filter ADSR Amplitude & Filter LFOs,
Pitch Envelopes & LFO
Filter & Velocity Response Mix/Layer & Volume assignment & Sample Settings.

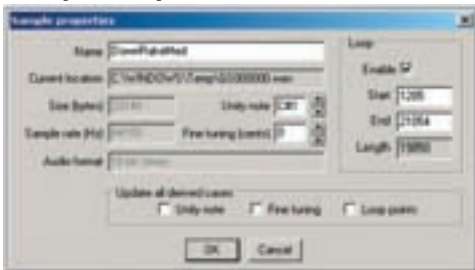
Samples:



Each of these Dimensions with their individual set of parameters can have a Sample assigned to them.

You can have one Sample per Dimension or even have a sample mapped to several dimensions but with different settings applied to it.

Sample Properties:



Each Sample has its own set of properties including the Unity Note (or Root Note), Sample Rate & Bit Depth, Loop Points & Name and Fine Tuning.

How to open the Instrument Editor:

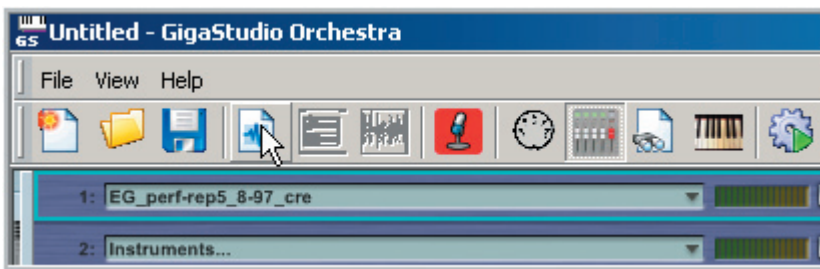
There are several ways to open the Instrument Editor depending on what you want to do and from where you want to launch it.

Opening the Instrument Editor from the GigaStudio Interface:

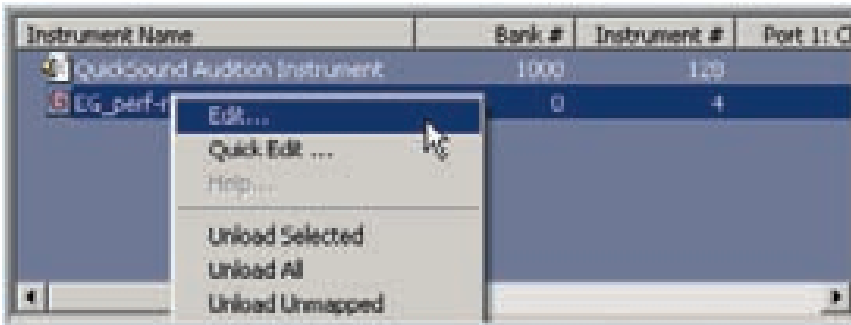


1. To open the Instrument Editor with a blank empty gig file, click on the [Instrument Editor] button.

The button is in the menu bar in the upper left section of the GigaStudio.



2. If you want to edit a loaded instrument in the Instrument Editor, [right-click] on that loaded instrument and choose [Edit...]



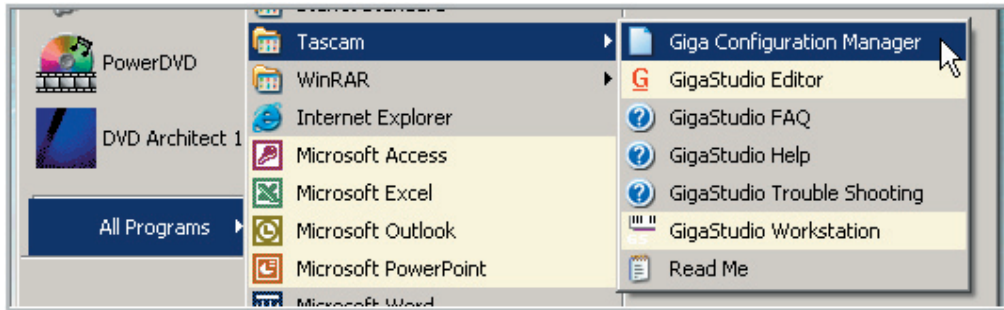
The Instrument Editor will open with the selected instrument loaded.

Note: The Instrument Editor will have to load the entire .gig file associated with the selected instrument. If the entire .gig file is not already loaded into the GigaStudio (buffered into RAM) then the Editor will take the time to load it for you. This can take a few moments if the instrument is large or complex.

Opening the Instrument Editor from the Windows Desktop:

You can open and use the Instrument Editor without having the GigaStudio Interface running. This is a good way to work when doing intense instrument construction.

1. You can launch the Editor from the Windows Start Menu.



2. You can launch the Editor by [double-clicking] on a shortcut on the desktop.



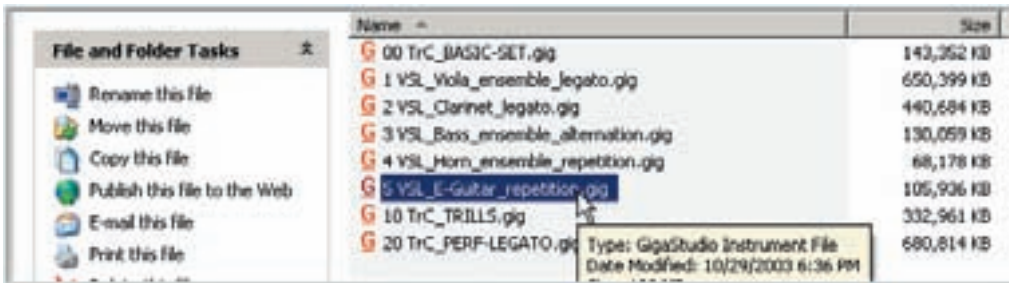
The installation of GigaStudio will create this shortcut if you select the option that allows it to create a shortcut on the desktop.

To create a shortcut manually, navigate to the Editor (or any application you wish to create a shortcut for) from the “Windows Start Menu” instead of clicking on it and launching the program, hold down the [control key] and drag it out to the desktop. You can also right-click and choose [create shortcut] from the menu.

You can also drag the shortcut to the Windows toolbar and then launch the Editor with a single click on that icon.



3. Last but not least, you can launch the Editor by [double-clicking] on a .gig file from the Windows Desktop.



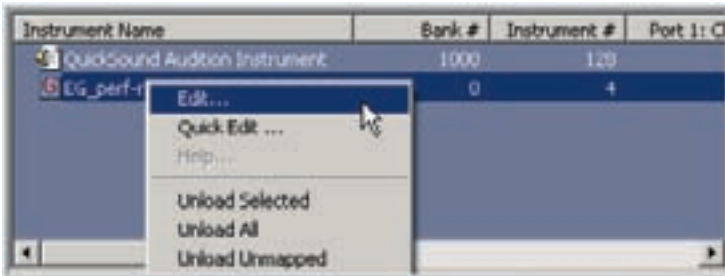
This will launch the editor and load the selected .gig file.

You can load multiple .gig files by selecting several of them and hitting the [Enter] key.

How to open a GIG file:

Opening a .GIG file from the GigaStudio Interface:

1. [Right-click] on a loaded instrument and choose [Edit...]

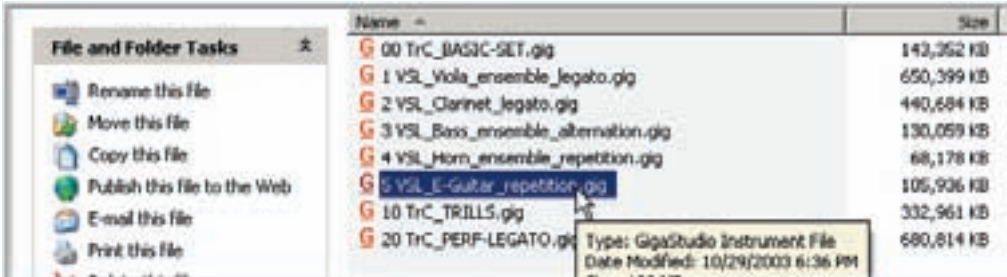


2. The Instrument Editor will open with the selected instrument loaded.

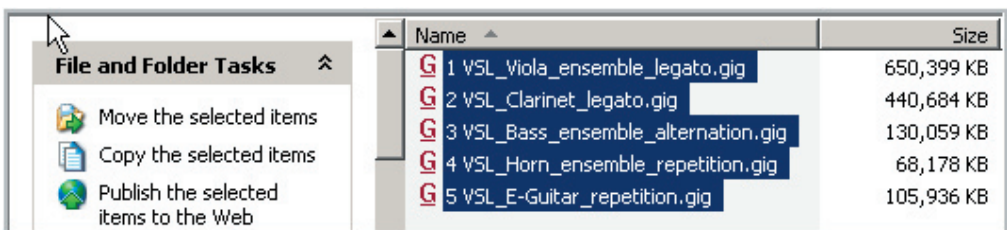
Note: The Instrument Editor will have to load the entire .gig file associated with the selected instrument. If the entire .gig file is not already loaded into the GigaStudio (buffered into RAM) then the Editor will take the time to load it for you. This can take a few moments if the instrument is large or complex.

Opening a .GIG file from the Windows Desktop:

1. Browse to any .GIG file and [Double-click] on it.

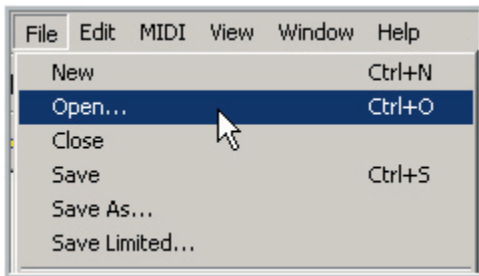


2. You can load multiple .GIG files by selecting several of them and hitting the [Enter] key.



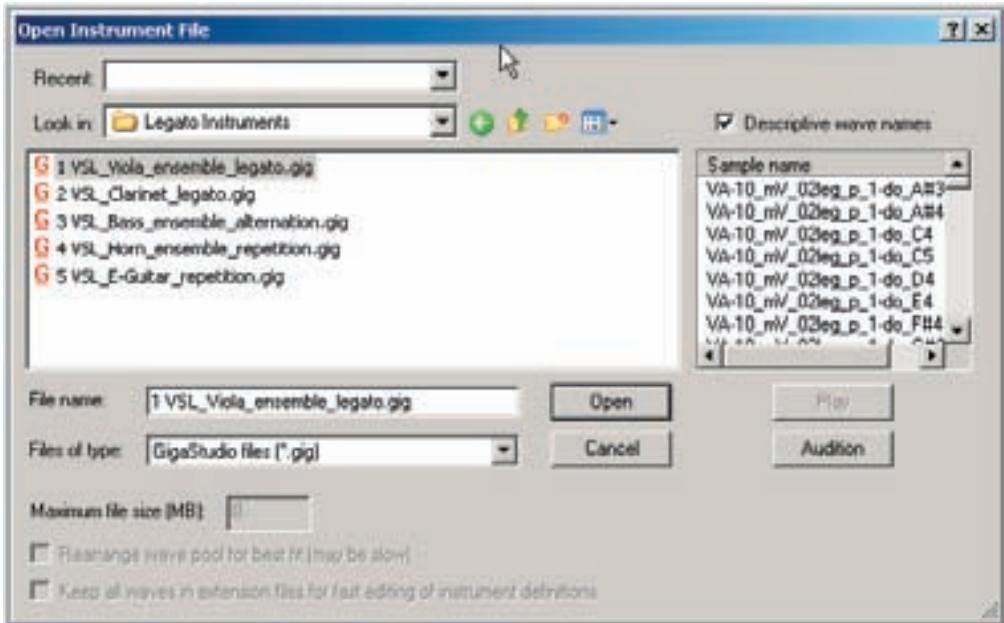
Opening a .GIG file from the Instrument Editor:

1. Go to the File Menu and choose Open... [Alt] + [F] + [O] or [Ctrl] + [O]



2. This will bring up the Open Instrument File Window (Below)

3. From this window browse to the file you want to open.

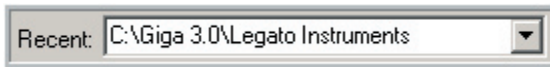


4. Select the file and click on the [Open] button and the file will load into the Editor.

This window is very similar to the “Open File” window in other programs but there are a few features that are GigaStudio specific. The details of this window are covered next.

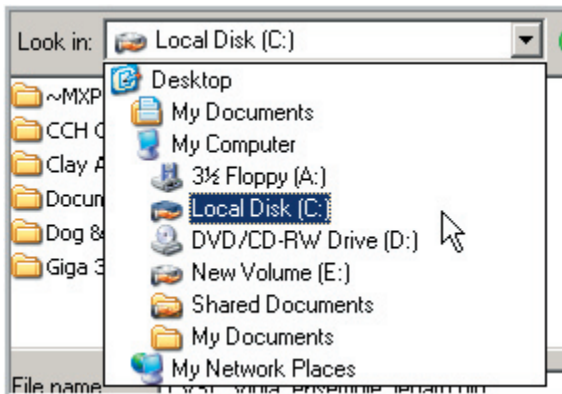
Open File Window Details:

1. Recent:



This dropdown will show you the most recent folders that .GIG files have been loaded from. It's a good place to start if you want to open recently used instruments.

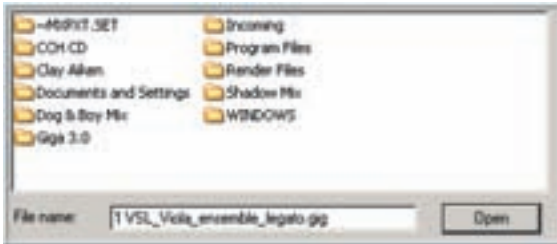
2. Look In:



This dropdown is where you select the computer or hard drive to look in for files. You can even browse to files on a network from here.

The contents of what you select here will show up in the main File/Folder window below.

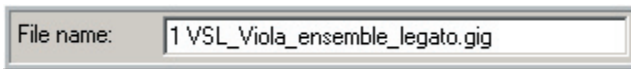
3. Main File/Folder Window:



[Double-click] on folders to reveal their contents.

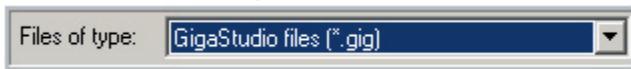


Select a .GIG file and its name will show up in the File Name area.

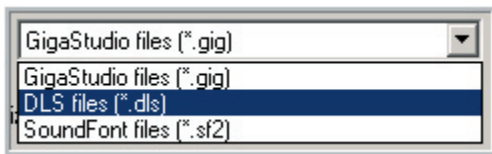


At this point you can select the [Open] button or [double-click] on the file to open it.

4. Files of type: (GigaStudio Specific Feature)



This selects between the available file types that the Editor can load.



- **GIG Files**-Regular GigaStudio Instrument Files.
(even older versions of .GIG files from the GigaSampler and GigaStudio 2.x)
- **DLS Files**-Downloadable Sample Files.
- **SF2 Files**-Sound Font 2 Files

This is where the DLS and Sound Font compatibility is utilized. GigaStudio does not read these files directly but you can open them with the Giga Edit from here and then save them as standard .GIG files.

5. Navigation Buttons



Last Folder Visited: Takes you to the Last Folder that you were at.



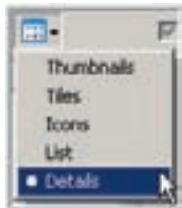
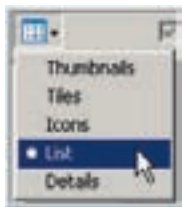
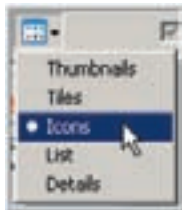
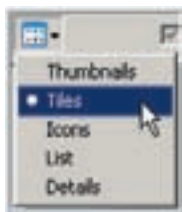
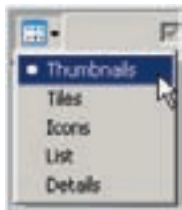
Up One Level: Takes you up one level in the tree. It is Similar to a Back Button in a browser.



Create New Folder: Click on this to create a new folder. You can then name it and continue browsing and even move files around.

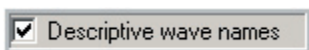


View Menu: This dropdown lets you toggle between 5 ways of displaying the files.

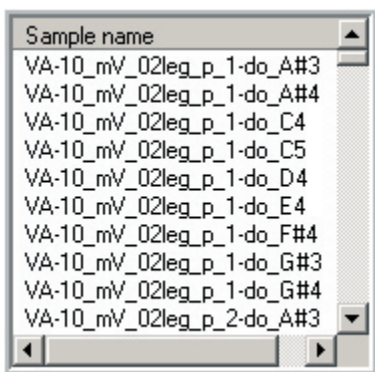


Name	Size	Type	Date Modified
1 VSL_Viola_assemble_legato.gp	150,799 KB	GigaStudio Instrument File	10/29/2000 5:25 PM
2 VSL_Clarinet_legato.gp	140,604 KB	GigaStudio Instrument File	10/29/2000 5:31 PM
3 VSL_Bass_assemble_alternati...	130,269 KB	GigaStudio Instrument File	10/29/2000 6:17 PM
4 VSL_Horn_assemble_repetition.gp	68,178 KB	GigaStudio Instrument File	10/29/2000 5:42 PM
5 VSL_E-Guitar_repetition.gp	105,936 KB	GigaStudio Instrument File	10/29/2000 5:36 PM

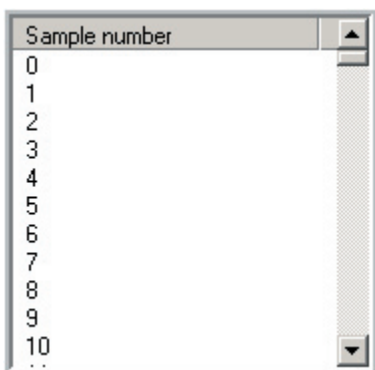
6. Descriptive Wave Names: (GigaStudio Specific Feature)



This checkbox Changes the names in the Sample Audition window (Below this checkbox) between “Descriptive Sample Names” and “Sample Numbers”. These are the samples from the .GIG file that is selected in the main window.



When checked, the names of the samples from the .GIG file will be displayed. This feature can take a few seconds to display each time you select a new file. If you are in a hurry and you don't need to see these names, just uncheck the box to display the Sample Numbers instead.



When, un-checked, you get sample numbers instead.

The Sample Numbers display is very handy for seeing how many samples are in a .GIG file. Just scroll to the bottom of the list to see how many there are.

It is also much faster when you need to quickly navigate between various .GIG files. You will not have to wait for the browser to profile the sample names.

7. Sample Play & Audition Window: (GigaStudio Specific Feature)



You can select any sample in the .GIG file and play it from here. Just scroll down the list, select a sample and hit the [Play] button below to hear it.

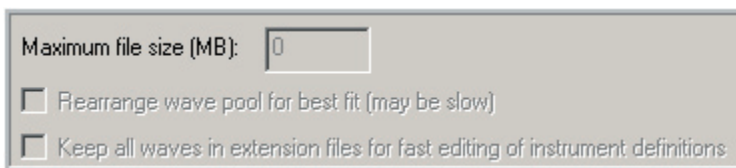


Pressing the [Audition] button will trigger a specially created Audition sample. The audition sample can be anything a .GIG file creator wants it to be. It could be a musical example of the instrument playing, a single note or even a vocal description.

To create an Audition Sample, you just select any sample in the wave pool in the Editor, [Right-Click] on it and choose "Mark as Audition Sample" When the instrument is saved, this will be the file that plays back when you hit the [Audition] Button.

8. Advanced File Saving Features: (GigaStudio Specific)

You will see these features in this screen but they are grayed out because they are not used when Opening .GIG Files. These tools are only used when saving .GIG files.

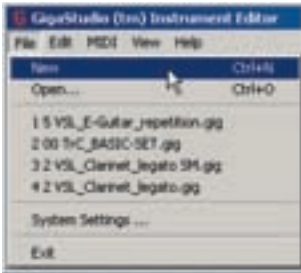


These are covered in "o8-13 How To-Load Status & Split Files".

How to create a new empty .GIG file:

There are two ways to create a new .GIG file.

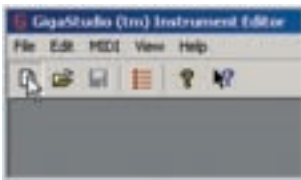
1. The File Menu:



Go to the file menu and choose [New]

[Ctrl] + [N] or [Alt] + [F] + [N]

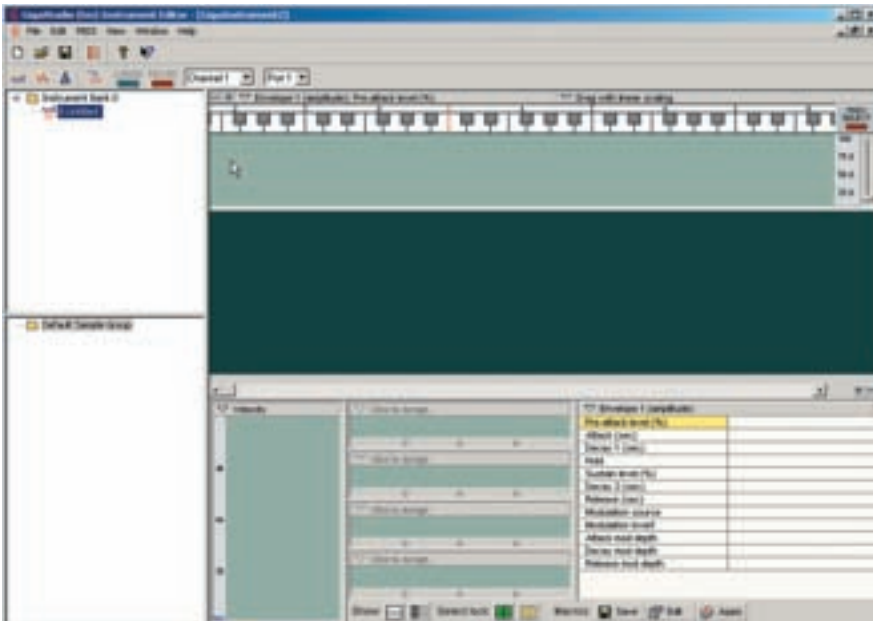
2. The Tool Bar:



Select the document icon on the toolbar.



An empty .GIG file will then open in the Instrument Editor. At this point, there are no instruments, regions, samples or parameters in the .GIG file.

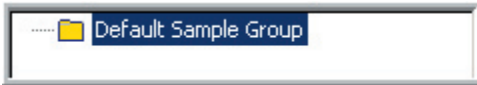


How to Import Samples:

1. Importing Samples from the Sample Window:

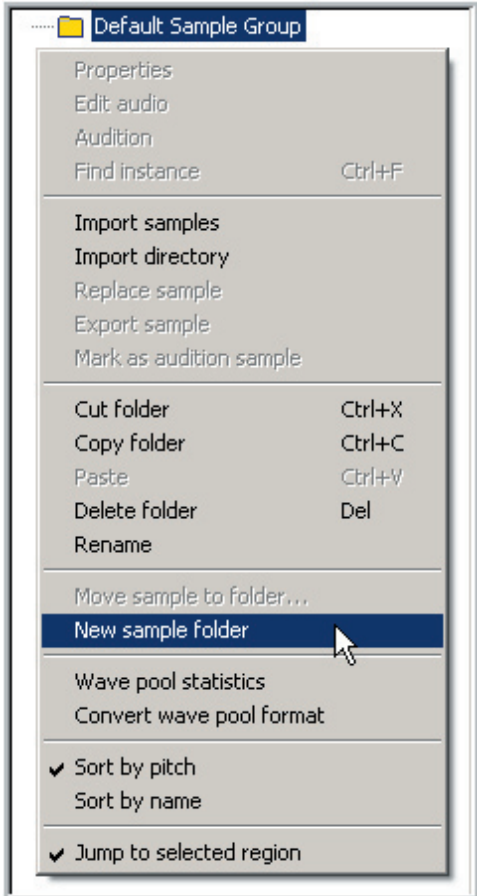
Creating Folders

Samples are imported into folders in the Sample Window.



When you create a new .GIG file, you will always find a “default” sample folder in the Sample Window.

You can start importing samples into this folder or you can create new folders.



1. To create a new folder, [right-click] anywhere in the Sample Window and choose “New Sample Folder”. (Left)

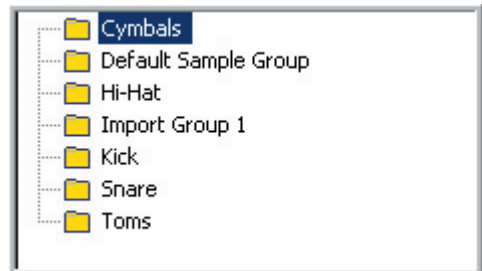
2. This will create a new group ready to be named.



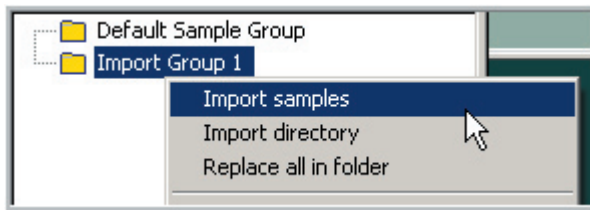
3. You can then give it any name you want.



4. You can do this with as many folders as you need.

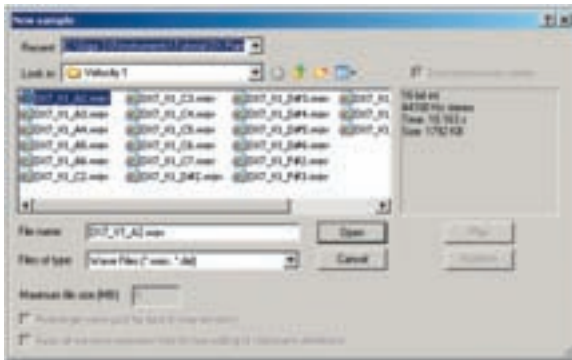


Importing Samples:



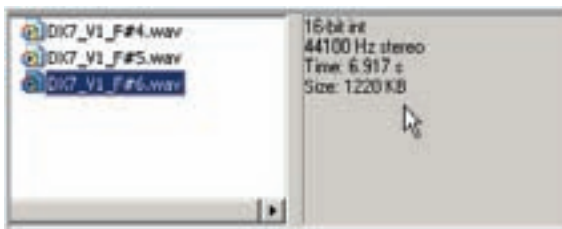
1. To import samples into a folder, [right-click] on a folder and choose “Import Samples”

You can [right-click] anywhere in the Sample Window but you need to make sure that the folder you want the samples to go in is selected.



2. This will bring up the Sample Browsing Window.

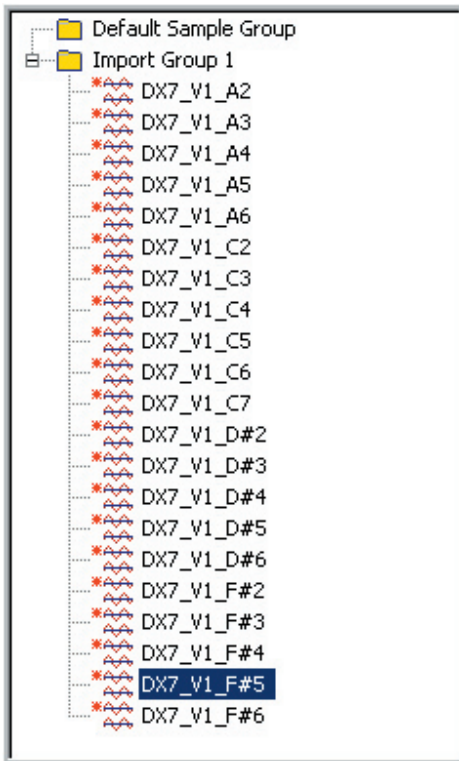
This is very similar to the File Open Browsing Window.



3. When you select a sample, the sample window displays the sample specs including the Bit Rate, Sample Rate, Length and Size.

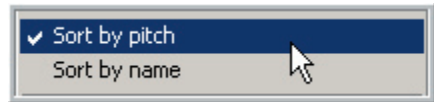


4. Select a sample or a group of samples and click on the [Open] button to import the samples into the folder.

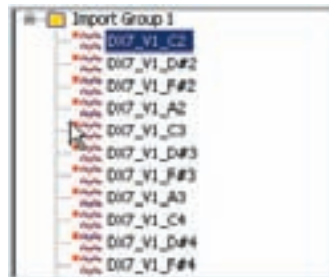
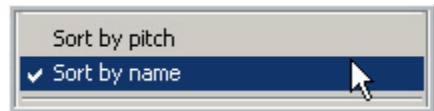


5. The samples will now show up in the Sample Window. (Left or Below)

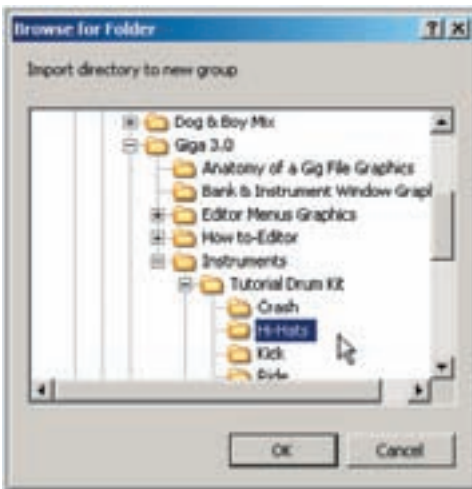
6. [Right-click] in the Sample Window to sort them by “Pitch” (Left)



7. Or Sort by “Name” (Below)



Importing Directories/Folders:



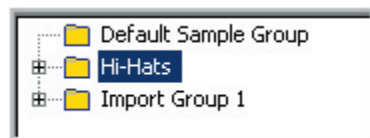
1. [Right-click] in the Sample Window and choose Import Directory

2. This will bring up the Directory Browsing Window.

3. Open the drives & folders with the checkboxes to browse to a directory.

4. Click on [OK] to import the directory into the Sample Window.

5. Imported Directory (Below)



2. Importing Samples from the Windows Desktop:

The most convenient way to import directories and samples into the Sample Window is to drag and drop them directly from the Windows Desktop. With this method, you can import multiple directories at once instead of just one at a time.

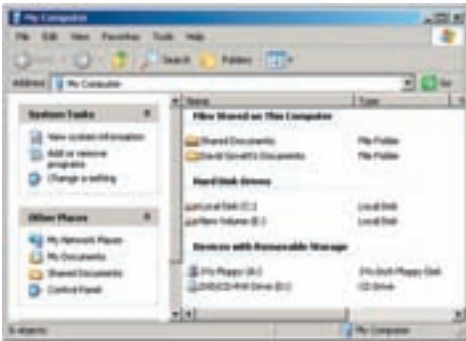
To import samples or directories, you need to open up a Windows Browsing screen on top of the GigaStudio Editor.



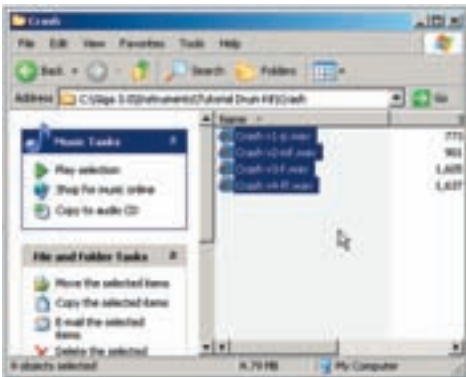
1. To do this, first minimize the Editor with the Minimize button on the very top right corner of the Editor screen. You will see two sets of these buttons. Use the top one.



2. Then [double-click] on My Computer to bring up the Windows Browser screen.

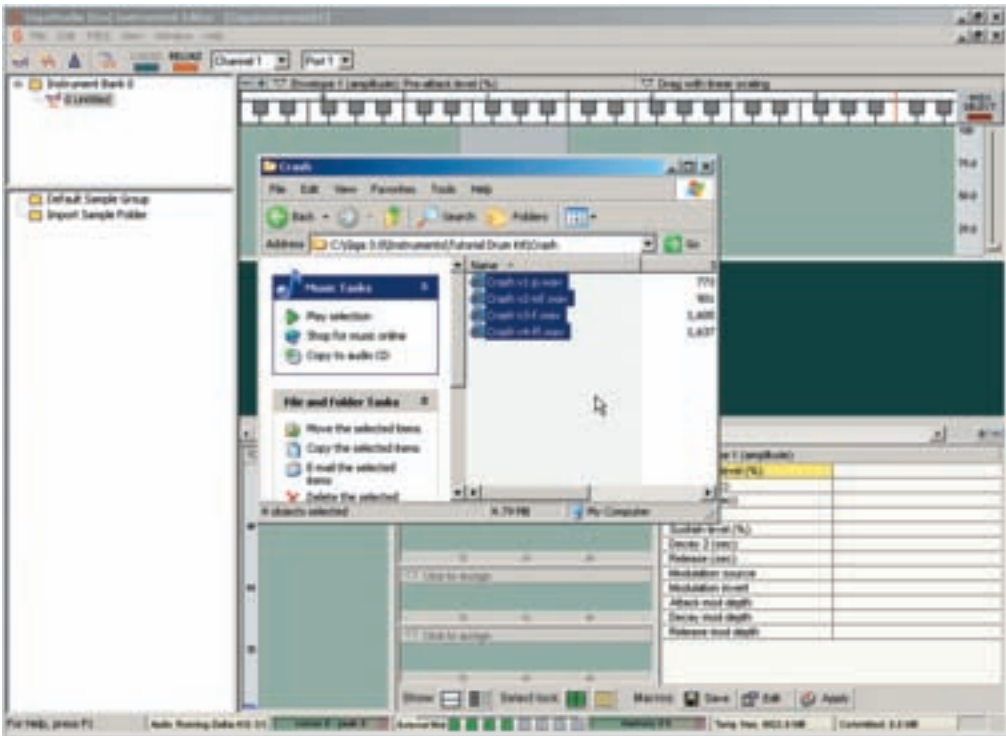


3. From this window, navigate your way to a folder of samples. You will need to be familiar with the Windows interface for this.

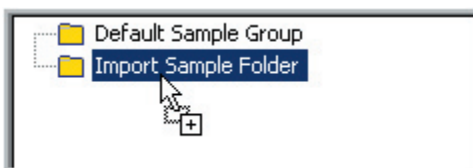
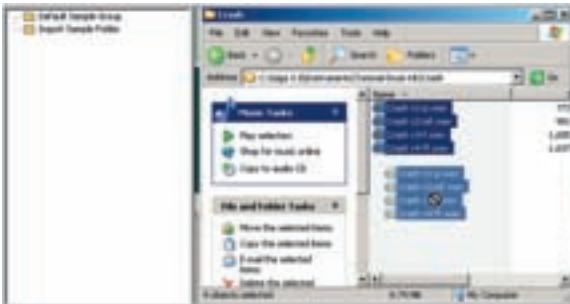


4. Here we have navigated to a folder of samples.

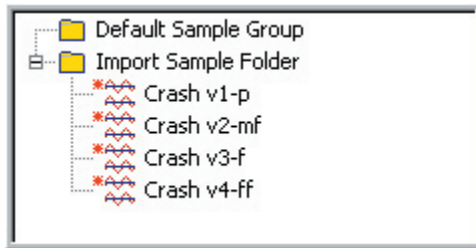
5. You will need to make sure this browsing window is sized small enough to fit on top of the Instrument Editor screen. (Unless you are using a dual monitor setup)



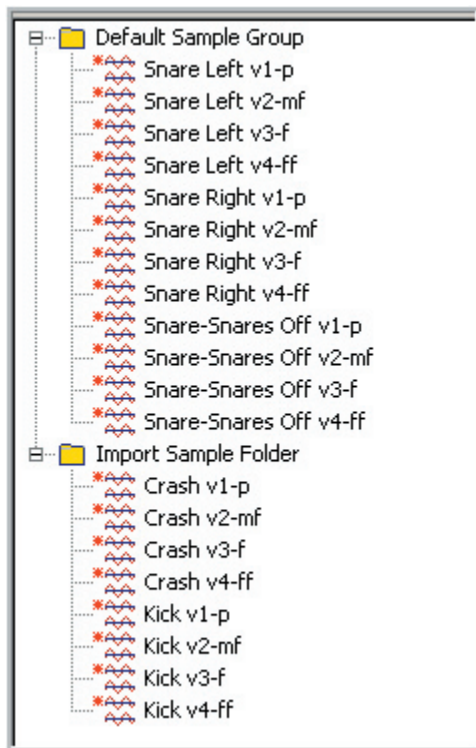
6. Drag the samples from this browsing window to any folder in the Sample Window.



7. Here we are dragging to the folder named “Import Sample Folder”



8. Now the samples appear in the folder.

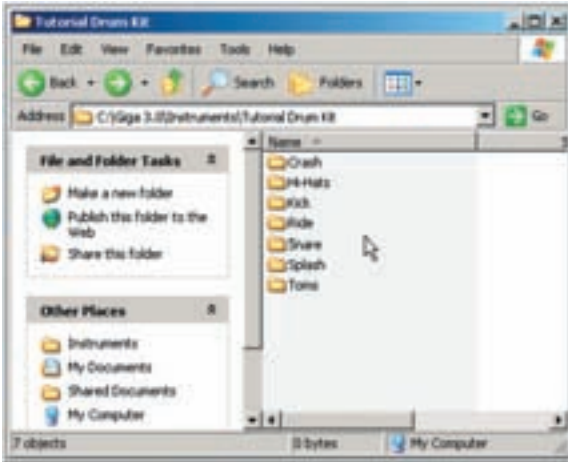


9. You can do this with more samples and put them in any of the folders.

In this example, we put some Kick samples in the “Import Sample” folder where the crash samples are.

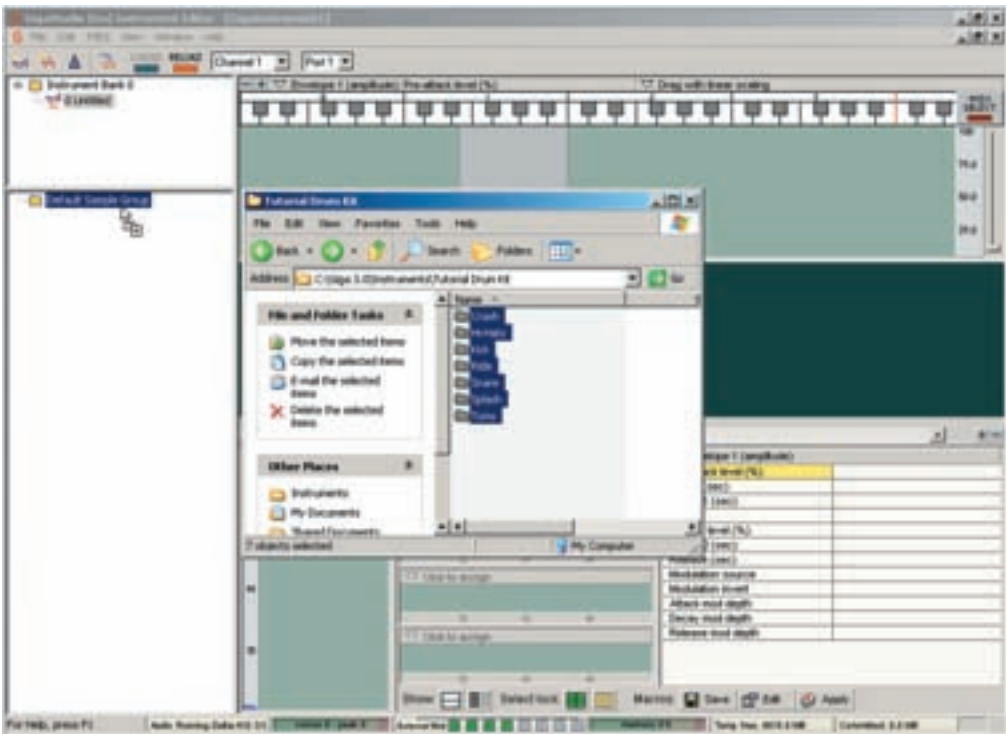
Then we put some Snare samples in the “Default Sample Group” folder.

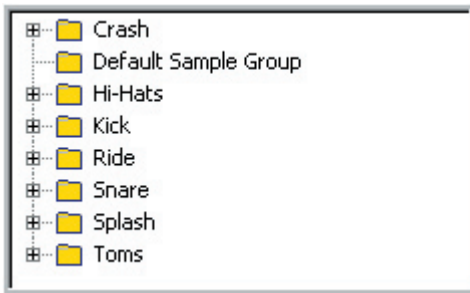
3. Importing Multiple Folders from the Desktop:



1. To do this, navigate to where you can see several folders that have samples in them.

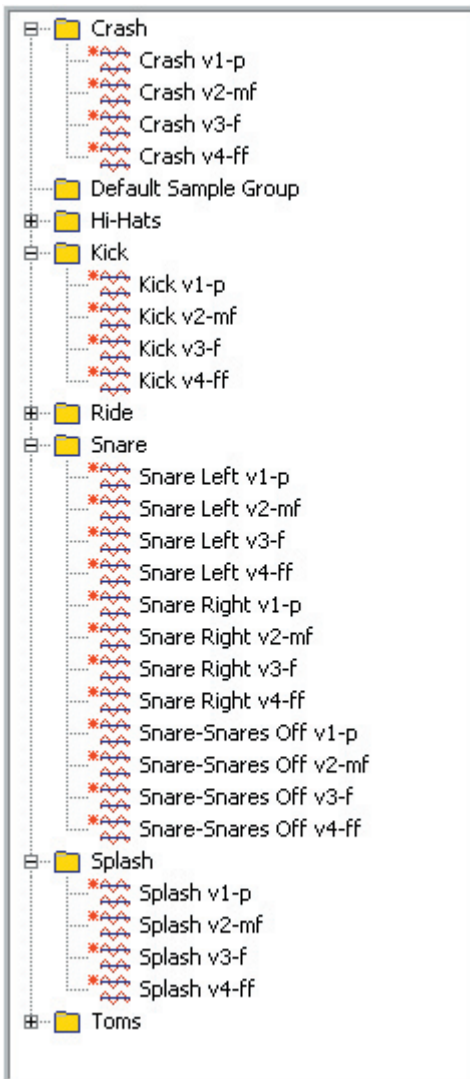
2. Drag & drop a folder or several folders from the desktop into the Sample Window.





3. All the folders and their samples are now in the Sample Window inside the GigaStudio Editor.

This is the best way to quickly import a bunch of samples at once.



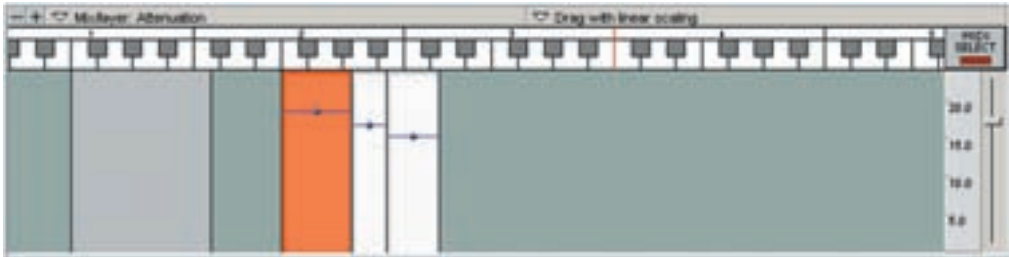
4. Click on the check boxes to open or close the folders to display or hide the samples.

Now the samples are imported, organized and ready to be mapped into instruments.

Creating Regions:

The next step in creating an instrument is to create some regions. There are many ways to create regions. In this section, we will cover how to create them manually. This is the way certain instruments (Like drum kits for example) will usually be created. This will also help familiarize you with the concepts of mapping samples before getting into the more advanced ways of mapping like the Wizard Tool.

Using the Region Window:



Before you start creating regions, we need to point out a few Region Window items that you will use or need to be aware of. The Region Window is covered in detail in its own section.

The Region Window is covered in chapter "09-04 The Region Window"

1. Zoom Buttons:



Use these buttons to shrink or enlarge the Region Keyboard.

Zoom In: (+)

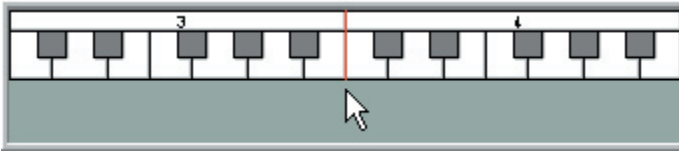


Zoom Out: (-)



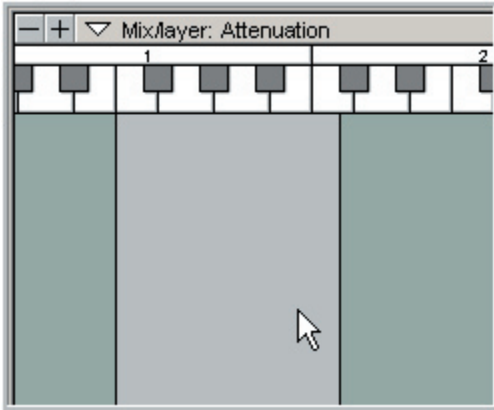
2. Middle C:

This red line indicates where Middle C is. (Defaults to MIDI note 60 or C4)
It is always to the left of Middle C



This can be changed up or down an octave in the Editor Preferences if needed. (Edit Menu/Preferences/"Middle C Is")

3. Key-Switch Region:



This gray region represents the Key-Switch range. It can be sized and moved around just like Regions.

This is a new feature of 3.0 to be able to easily adjust the Key-Switch range graphically. For now, you can move this out of the way and ignore it.

4. MIDI Select Button:



The MIDI Select Button allows regions & dimensions to be highlighted and selected by the incoming MIDI data.

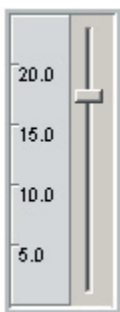


For now, make sure this is turned off.
(Red Light "Off")

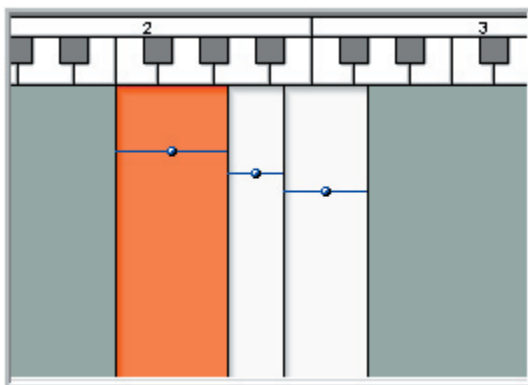
5. Graphical Editing Tools:

The Region is one of the places to adjust instrument parameters and see the results graphically across the whole instrument. It's a wonderful way to edit some things and to keep your bearings on what is happening as you edit.

Parameter Menu Bar:



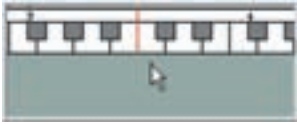
Parameter Zoom Level:



Parameter Editing Dots:

You will see little blue dots on each region you create. These represent an editing parameter and it can be adjusted by moving the blue dot up or down on the region or on a bunch of regions at once. You can ignore these for now but we wanted to point them out.

Creating Regions: In the Region Window

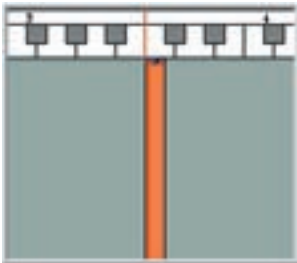


1. Place the mouse under the note where you want to create a region and [right-click].

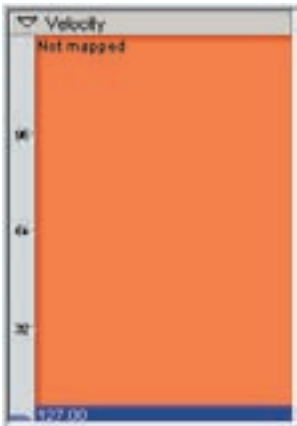
In this example, we will use “Middle C”.



2. Choose “New Region” from the menu.



3. This will create a brand new region and it will also be indicated in the velocity window below.



4. In this case, it is a single solid block of color. This shows that there are no velocity splits and the region is mono.

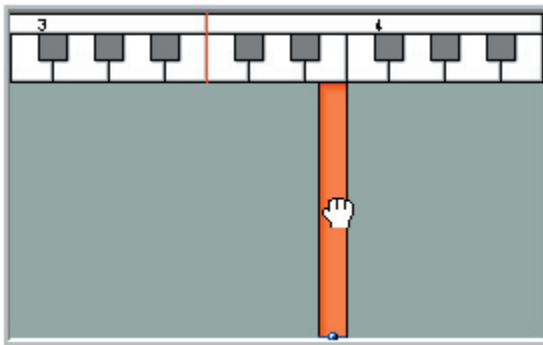
Also, there is no sample mapped to this region.

There are a few things to keep in mind when creating regions this way:

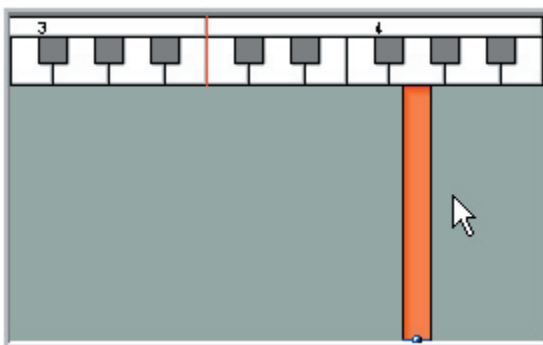
- If you accidentally click under the wrong note, you can easily drag the region to the correct note. The region can also be resized. (Stretched)
- The region's split amounts are setup in the Edit/Preferences menu. You can have anything from a simple mono region with no velocity splits, up to a stereo region with 32 splits.
- If you create a region with an empty instrument (no samples imported) then the region will be empty. The velocity window will display Not Mapped.
- If you create a region while there are samples in the Sample Window, then a sample will be automatically assigned to this region. You can choose which sample this will be by selecting a sample before creating a region.

We will now cover these points in detail:

Moving Regions:

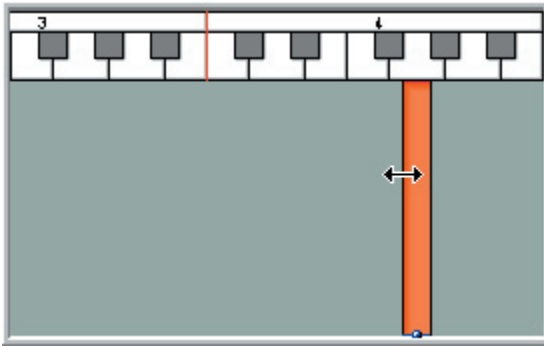


1. To move a region, grab it in the middle so that the mouse turns into a little hand.

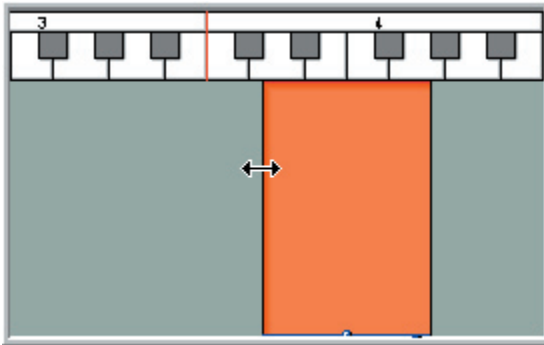


2. Then drag the region to the left or the right.

Resizing Regions:



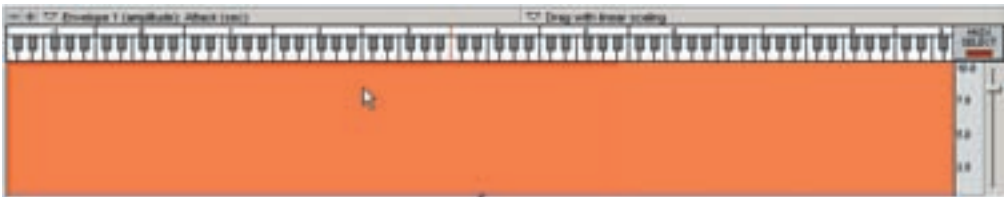
1. To resize a region, grab one of the edges with the mouse so that the mouse turns into a left-right arrow.



2. Then drag the mouse to stretch the region.

You can do this with either side of the region.

3. A region can be stretched over the range of an entire keyboard and beyond from MIDI Note 0-127 (C-1 to G9)

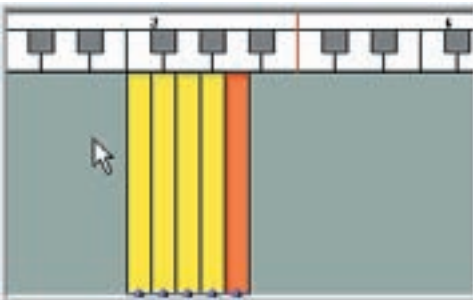


Selecting and Moving Multiple Regions:



1. To select several regions, drag across them with the mouse. Start in the gray space of either side and then drag across the regions.

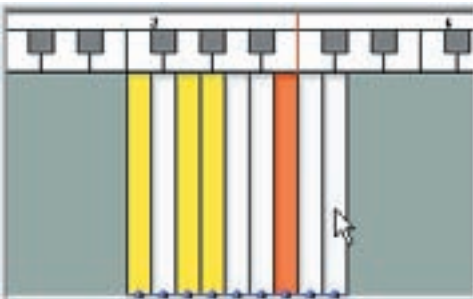
You can also select the first region and hold down the shift key while selecting the last region to do the same thing.



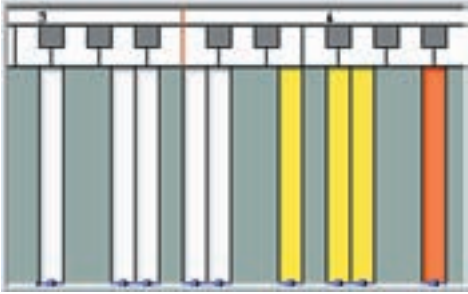
2. The selected regions will now be highlighted in yellow.



3. You can then move all these regions at once by dragging on one of the regions.



4. You can also select non-contiguous regions by holding down the [control key] while selecting regions with the mouse.



5. These non-contiguous regions can then be moved around the Region Window.

They will maintain their relationship with each other wherever you put them.

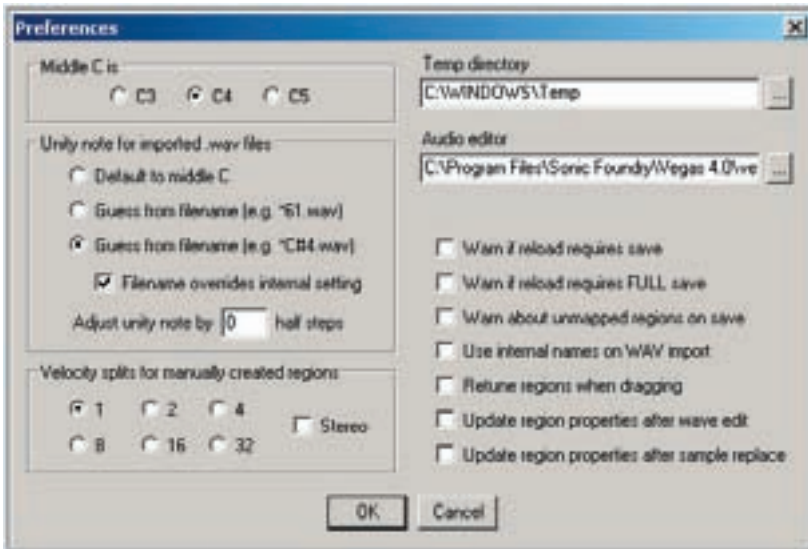
Splits for Manually Created Regions:

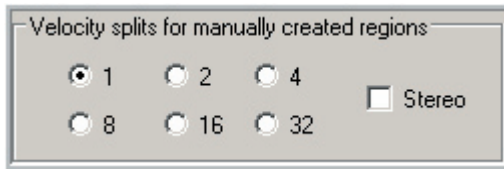
You can choose the default region settings in the Editor Preferences Menu. This will determine whether manually created regions are mono or stereo and how many velocity splits there will be. This is a very handy feature when doing a lot of similar type regions. If you know that you are dealing with stereo samples and will need 4 velocity splits, then you can set the default to this setting. Otherwise, you have to select the created regions and make these settings manually afterwards.



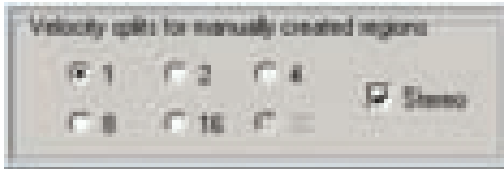
1. Go to the Edit Menu and choose “Preferences”.
This is the bottom item in the Edit Menu.

2. That will bring up the Editor Preferences Window.

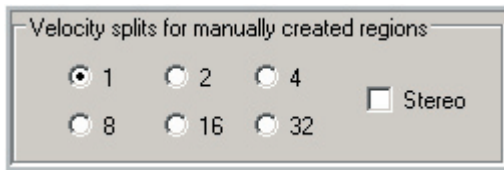




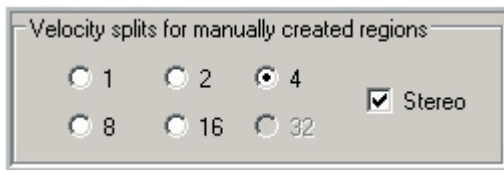
3. In the Preferences Window look for the section called “Velocity splits for manually created regions”.



4. Click the “stereo” checkbox if you want stereo regions.



5. Uncheck it to create mono regions.



6. Select the amount of velocity splits you want. (1-2-4-8-16 or 32)



7. Then hit OK.



8. Any new regions you create will reflect this setting and this setting can be changed as often as needed while you work.

Split Settings Examples:

1. Mono-No Velocity Splits:

Velocity splits for manually created regions

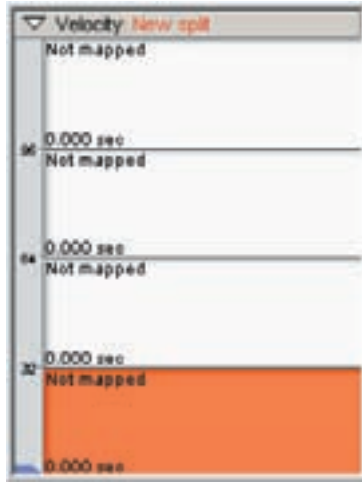
1
 2
 4
 Stereo
 8
 16
 32



2. Mono-4 Velocity Splits:

Velocity splits for manually created regions

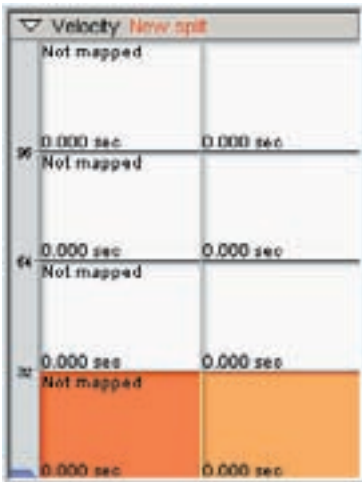
1
 2
 4
 Stereo
 8
 16
 32



3. Stereo-4 Velocity Splits:

Velocity splits for manually created regions

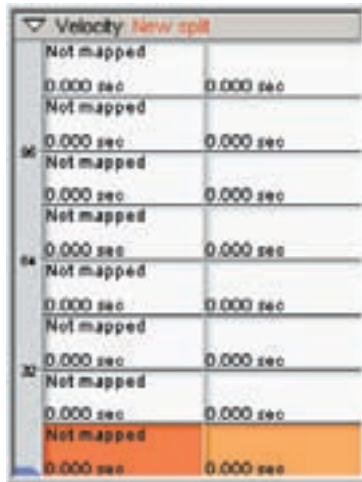
1
 2
 4
 Stereo
 8
 16
 32



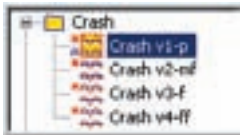
4. Stereo-8 Velocity Splits:

Velocity splits for manually created regions

1
 2
 4
 Stereo
 8
 16
 32



Automatic Sample Assignment:



1. If there are any samples in the Sample Window, one of them will be always assigned to any region that you create manually. In this example, the Crash v1-p sample is highlighted in the Sample Window.



2. When a new region is created, this sample is assigned to the region. The name of the samples now shows up in the Velocity Map.



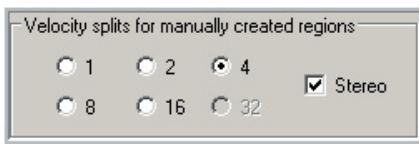
3. You can choose which sample by simply selecting it in the Sample Window. That sample will continuously be mapped every time you create a new region until you select a different sample.

Here we have selected the Kick v1-p sample.

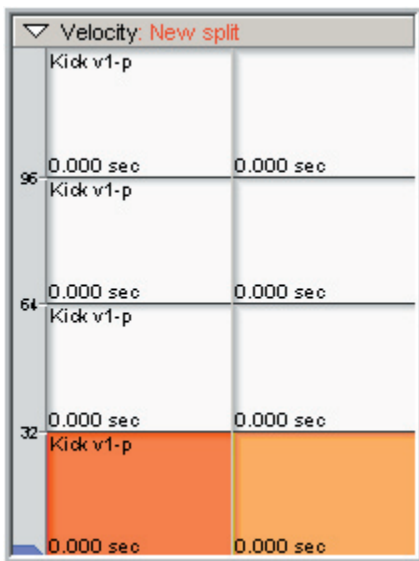


4. Now when we create a new region, the Kick is mapped to the region.

Also, keep in mind that the selected sample will assign itself to all the velocity splits if there are more than more than one splits selected in the Editor Preferences.



1. In this example, we have selected 4 velocity splits as the default for manually created regions.

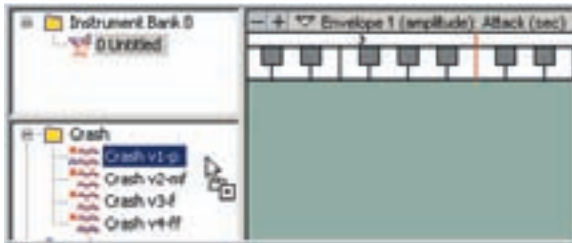


2. This time, the Kick sample is assigned to all four velocity splits.

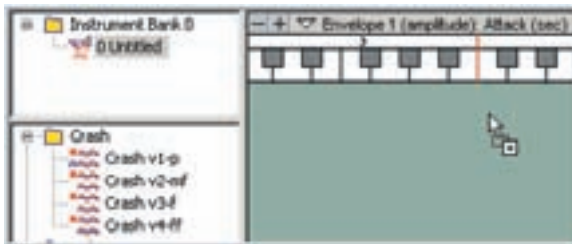
Creating Regions: Drag & Drop

A very quick and simple way to map a region is to drag & drop samples directly from the Sample Window into the Region Window.

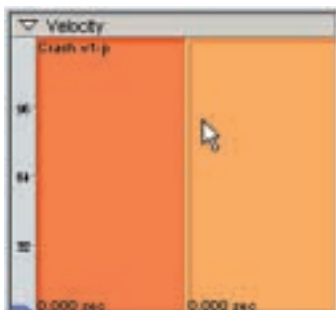
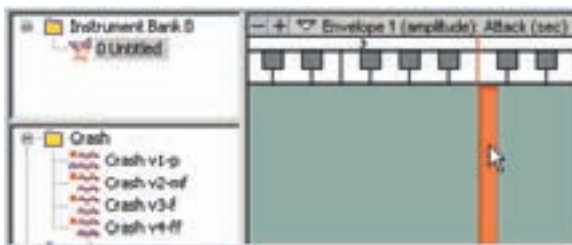
1. Grab a sample & drag it out with the mouse:



2. Put the mouse under a note:



3. Let go of the mouse and the region is created:



4. Now the sample name shows up in the Velocity Map.

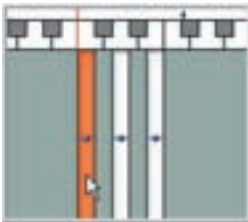
There are a few things to keep in mind when using this drag & drop method:

- This method will create a region with only one velocity split.
- If you drag with the [Left] mouse button, pitch tracking is enabled. The sample will pitch stretch depending on the unity note (or root note) and the location on the keyboard.
- If you drag with the [Right] mouse button, pitch tracking is disabled. The sample will play back at its natural pitch no matter where it is located on the keyboard.

Mapping Samples

After you create the regions, you can map samples to them. In the GigaStudio Editor, this mapping is done in a different way than might be expected. Instead of putting the samples directly under the keyboard, you drag them to the Velocity Map. This allows you to easily put the sample directly on the velocity split or dimension that you want.

Dragging to the Velocity Map:



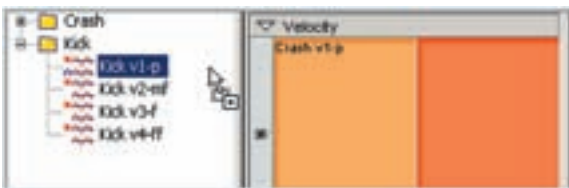
1. To start off, create a few regions and select one of them.



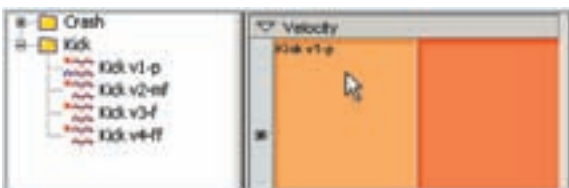
2. To map a sample drag it from the Sample Window directly to the Velocity Map.



3. Once you let go of the mouse, the sample name will now appear in the Velocity Map.



4. If you drag different sample to this same region...



5. It will replace it. In this example, the Kick samples replaced the Crash sample.

Pitch Tracking:

When you map samples, they will either have the Pitch Tracking “Enabled” or “Disabled”, depending on which mouse button you use when dragging the samples to the Velocity Map.

1. Pitch Tracking Disabled: Drag With [Right] Mouse Button



When Pitch Tracking is disabled, the sample will not transpose at all. It will always play at its natural pitch wherever you put it.

(Good for drums & percussion or Sound Effects)

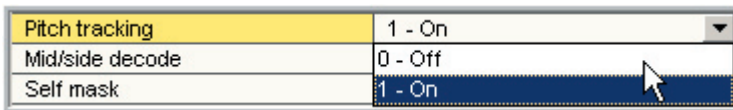
2. Pitch Tracking Enabled: Drag With [Left] Mouse Button



When Pitch Tracking is enabled, the sample will be transposed up or down from its unity note (Root Note or Natural Pitch) depending on what unity note is assigned and where it is on the keyboard range.

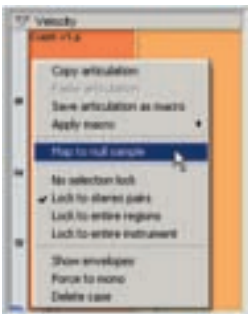
(Good for melodic multi-sampled instruments)

3. If you make a mistake or change your mind, you can also change the Pitch Tracking in the parameters page. (Mix/Layer-Pitch Tracking OFF or ON)



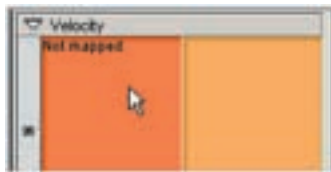
Map to Null Sample:

A “Null Sample” creates a dimension that is silent and empty. This allows you to have the equivalent of a silent sample without having to actually map a silent sample to the region.



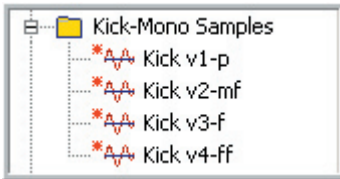
1. [Right-Click] on the Velocity Map and choose “Map to null samples” from the menu.

2. This will remove any sample that was mapped out to this area. (Not Mapped)

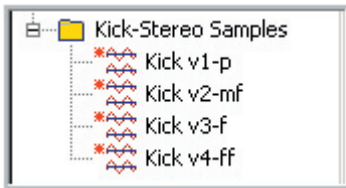


Mono & Stereo Samples:

The icon next to each sample in the Sample Window indicates whether a sample is Mono or Stereo.



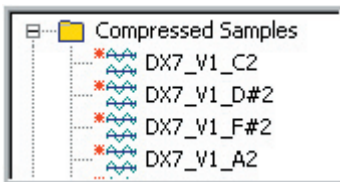
Mono Samples have one wave icon next to their names.



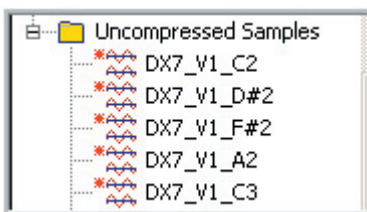
Stereo Samples have two wave icons next to their names.

This is a good point to mention the color of the icons.

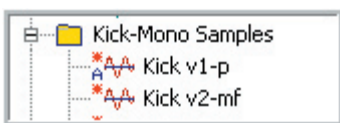
The color indicates whether the samples are compressed or not.
(Tascam Loss-less Disk Acceleration Compression)



Compressed Samples have Green wave icons.



Uncompressed Samples have Red wave icons.



Also, if you see the letter “A” next to a sample, this shows that the sample has been selected as the Audition Sample.

Mono & Stereo Samples:

When you map a sample, it will automatically switch the region to a match the channels of the sample.

1. Stereo to Mono:

In this example, a Stereo sample is dragged to the Velocity Map of a Mono region. Notice how the Velocity Map is one solid color at this point indicating that it is Mono.



When the mouse is released, the Stereo sample replaces the Mono sample and the velocity map is now split into two parts, indicating that it is now stereo.



2. Mono to Stereo:

In this example we do the opposite and drag a Mono sample to the Velocity Map of a Stereo region. The Velocity Map is split into two parts indicating that it is stereo.



The Mono sample replaces the Stereo sample and the Velocity Map is now one part, indicating that it is mono.



This is most important to keep in mind when you have multiple velocities or multiple dimensions. This very convenient feature will remove any samples from the region that don't match the sample that you are mapping.

Here is a quick example using 4 velocity splits.



1. In this case we have 4 velocities mapped out with 4 stereo samples.



2. If we drag a mono sample to the top velocity, the whole region is changed to mono and this sample is mapped to the top velocity split as intended.

However, the bottom three samples have been removed.

If you have a mix of Mono and Stereo samples in your instrument, be mindful of this as you map them out.

This covers the basics of drag & drop mapping of samples. So far we have used examples of a single velocity, mono or stereo. However, you can have many velocity splits and other splits called dimensions. Dimension Splits are covered in the next section followed by more advanced mapping using the multiple dimensions.

Creating Dimensions

Dimensions are one of the most important and revolutionary concepts of the GigaStudio. Dimensions allow real-time MIDI control of which samples are triggered.

The Basic Dimensions Overview:

- Stereo Split**-This is the first and most basic of Dimensions. There is no MIDI control of this dimension. It is either Mono or Stereo.
- Velocity Splits**-The speed at which you hit the keyboard determines which sample is triggered. This is most often used to for samples of instruments actually playing from soft to loud. Acoustic instruments tend to get brighter and more aggressive as they get louder so having samples recorded ranging from loud to soft makes for a much more convincing instrument.
- Sustain Pedal**-The MIDI Sustain Pedal switches back and forth between samples. This is most often used for piano libraries that have actual pedal up & down samples or to open and close hi-hats.
- Mod Wheel & Other MIDI Controllers**-This allows the Mod Wheel and most other MIDI continuous controllers to switch between various samples. A good example would be using the Mod Wheel to switch from closed to open hi-hats.
- Layers**-You can have several samples layered on top of each other playing together at once. You can even have individual MIDI control of the volume of each layer or have a MIDI controller sweep between the layers.
(Cross-Fade Layering)
- Key-Switch**-This original Giga invention allows you to use notes on the MIDI keyboard to instantly switch between various samples. This is often used for orchestral instruments that have a bunch of articulations. You can instantly switch from Long Sustain to Staccato to Legato to Trills to Tremolo etc. all on one MIDI channel.
- Round Robin & Random**-These dimensions switch the samples automatically each time you play a note. Round Robin plays a pre-determined sample order while Random triggers the samples randomly.
- Smart MIDI**- This Dimension is used for the new MIDI tools in Giga 3.0. These tools include the Pattern Alternator, The Repetition Tool and the Legato Mode Tool.

Working With Dimensions:

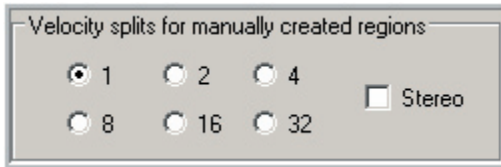
The best way to learn about dimensions is to start working with them.

- These next few lessons will start with a simple velocity split and work up to an advanced multi-dimension layout of a region.
- For now, we are going to be working with a single note to get to know the concept of working with dimensions. (E-2 of an Orchestral Bass Ensemble from the Vienna Symphonic Library)
- Everything will be done with the manual [Drag & Drop] method so you can see and experience directly what these dimensions do. Once you understand what they do, you will then be better prepared to work with the Wizard Tool.
- The Wizard Tool does everything described in these lessons but does it automatically across many regions in a split second. As you will see, it would be a bit tedious to do an entire instrument with this manual [Drag & Drop] method. However, this is the best way to learn about the structure of a region. In the Wizard Tool lessons, we will recreate some of these examples using the Wizard Tool using several notes.
- This manual method is however, the best method for creating certain instruments that don't benefit from the Wizard Tool like drum kits.
- You need to have the GigaStudio software installed and have your Audio and MIDI connections working. Open the Instrument Editor and create a new blank instrument.

Stereo Dimension Splits:

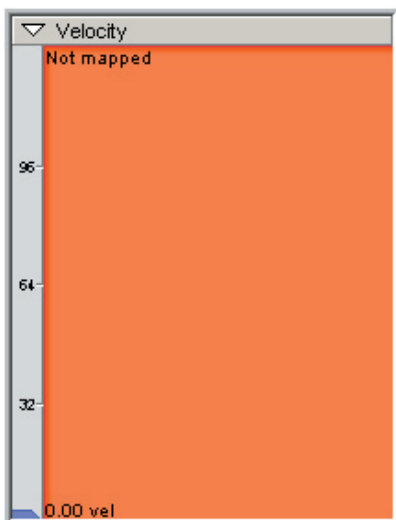
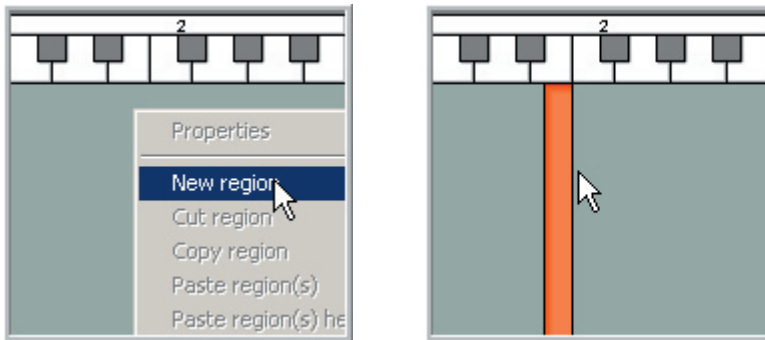
As you have seen in earlier lessons, a region can be Mono or Stereo. This counts as a dimension. If the region is Mono, you can have twice as many of all the other dimension splits. Once you make a region Stereo, you cut the number of other available splits in half.

Manually Changing the Stereo/Mono Split Settings:

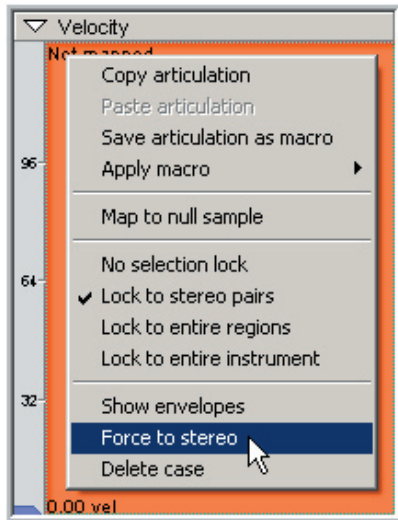


1. The first thing to do is go to the Editor Preferences and set the Velocity for manually created regions to 1-Velocity Split and Un-check the Stereo Checkbox. Click the [OK] button.

2. [Right]-Click in the region window to create a new region.



3. The single solid color in the Velocity Map indicates that this region is Mono and has No Velocity Splits.

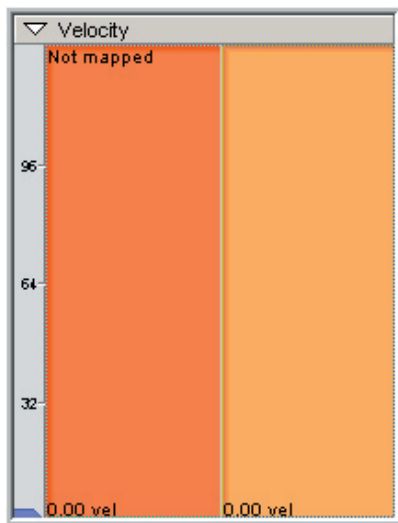


4. To turn this into a Stereo Dimension, [Right]-Click on the Velocity Map and choose 'Force to Stereo'.

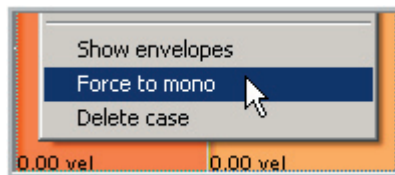
5. This will bring up the "Force region(s) to stereo" window. (Below) Click on [OK].



6. Now the Velocity Map is split into two parts, indicating that the region is now Stereo.



7. You can change it back to Mono the exact same way by [Right]-Clicking again on the Velocity Map and choosing "Force to mono".



Automatically Creating Stereo Regions:

Go back to the Editor Preferences and Check the Stereo Checkbox. Click [OK].

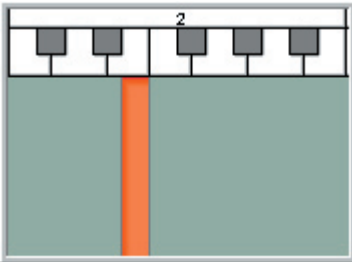


All the new regions will now be created as Stereo until you Un-check this box.

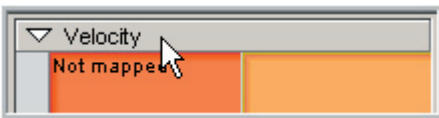
Also, if you [Drag & Drop] a Stereo sample onto the Velocity Map, this will automatically change it to Stereo. Dragging a Mono sample will change it back to Mono.

Velocity Splits: Creating

Now we will take a region and add some Velocity Splits to it.

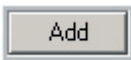
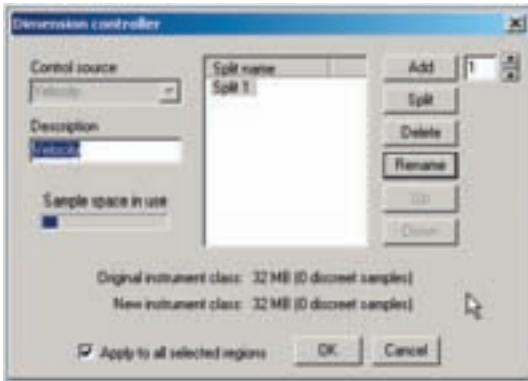


1. Create a Stereo Region and put it on E2.

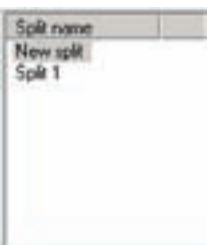


2. Click on the [Menu Bar] at the top of the Velocity Map to bring up the Velocity Dimension Controller Window.

3. This is the Dimension Controller Window for Velocity Splits. In this window, you can create velocity splits, name them and rearrange the order of these splits.

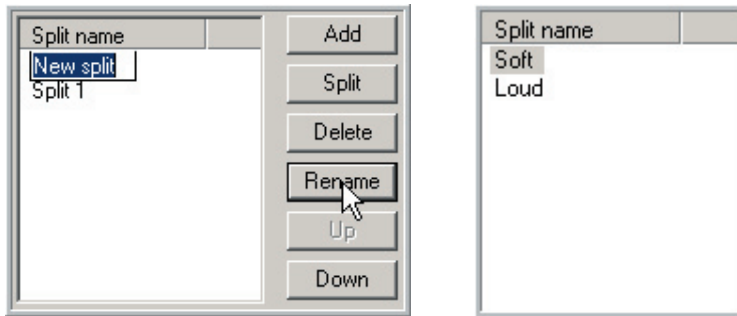


4. Click on the [Add] button to add a second Velocity Split.



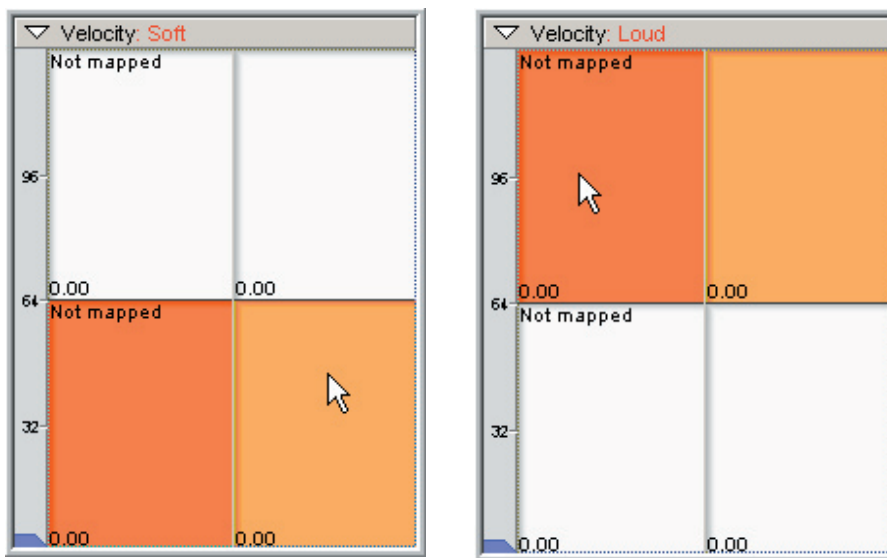
5. A New Split will appear at the top.

6. Click the [Rename] button and change the name of each split. Name the top one Soft and the bottom one Loud for now. Then Click [OK].



7. Now the Velocity Map is divided horizontally to represent these two velocity splits.

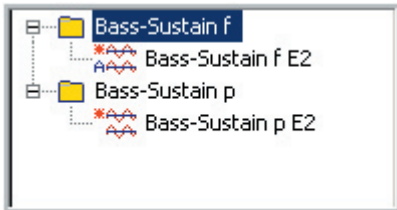
- If you click on the bottom split, it highlights and the name “Soft” appears in the Velocity Split Button at the top.
- If you click on the top split, it highlights and the name “Loud” appears in the Velocity Split Button.



As you can see, naming these dimensions makes it much easier to keep up with what is selected. This is even more important as we add more dimensions. This is a worthwhile habit to get into if you plan to do a lot of instrument design.

Velocity Splits: Mapping Samples

At this point, we just have an empty region with no samples mapped to it. Next we will import and map out a Soft & Loud sustain note.

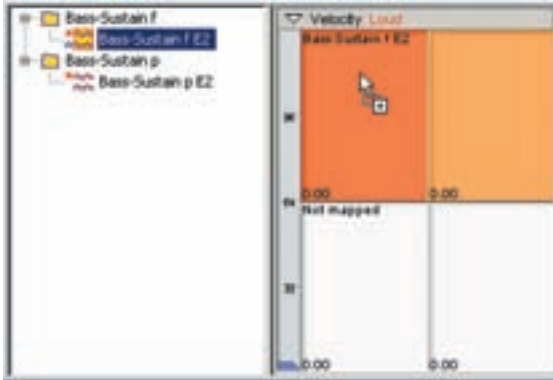


1. Import the two Bass-Sustain folders into the Sample Window.

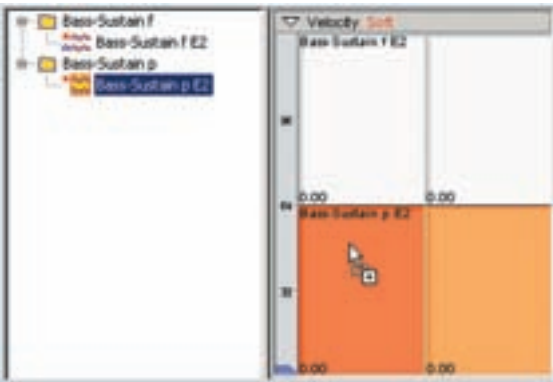
These are in the “Editor Tutorial Files” directory for this chapter.

(How To Create Dimensions)

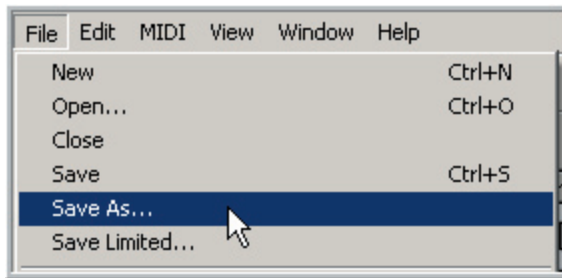
2. [Drag & Drop] the Bass-Sustain f E2 (this is the forte/loud sample) to the top split in the Velocity Map.



3. [Drag & Drop] the Bass-Sustain p E2 (this is the piano/soft sample) to the bottom split in the Velocity Map.



The samples are now mapped to the low and high velocity splits. In order to hear them, we need to save and load this instrument.



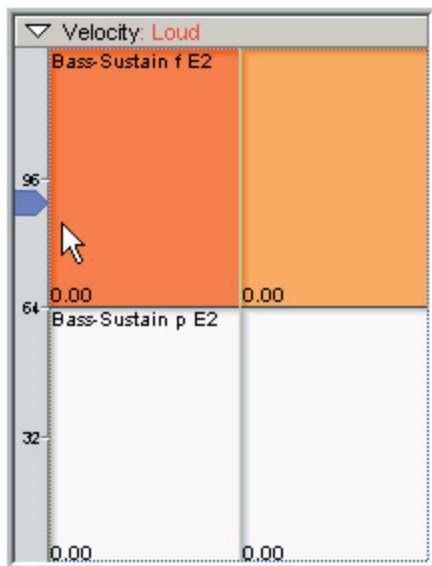
4. Choose Save or Save As in the File Menu & Save this .GIG file to your drive someplace.



5. Click on the [Download] Button on the Toolbar to load the instrument.



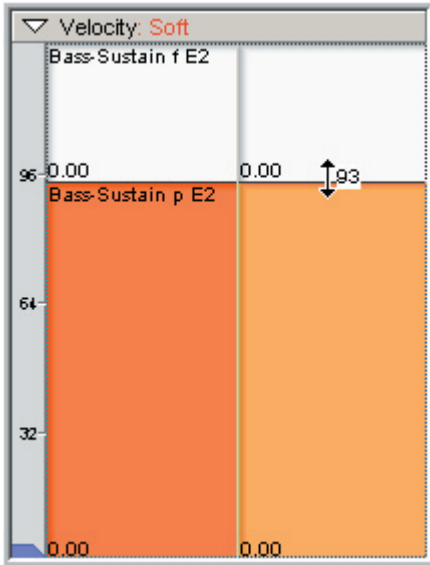
6. The Load Indicator Light will turn green when the instrument is loaded and ready to play.



7. Play E2 on your MIDI Keyboard to hear the results. Play soft & loud and notice how the sample changes depending on how hard you play.

When you cross the halfway point, it switches from the soft to the loud sample. This is indicated visually as well in the Velocity Map.

The blue pointer on the left tracks the incoming MIDI velocity level as you play and rests at the last played velocity level.



8. You can set the Velocity Split Point by [Dragging] up & down with the mouse.

The MIDI value is displayed next to the cursor (in this case, Up & Down Arrows) as you adjust the Velocity Split point.



Playback Monitoring:

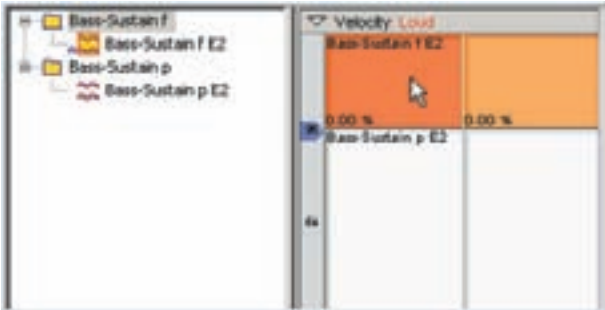
This is a good place to briefly point out the various Playback Monitoring features of the GigaStudio Editor. As you play the keyboard, a variety of real-time things happen on the screen at once, especially if you have the “Jump to Regions” and “MIDI Select” enabled.

First we will enable the “Jump to Regions” mode:

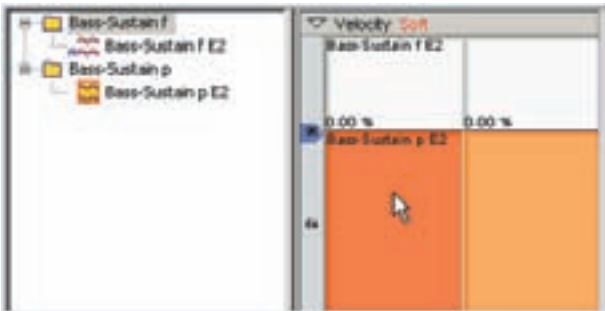


1. [Right]-Click in the Sample Window and enable Jump to selected region at the bottom of the menu. This feature will highlight any samples which have regions selected.

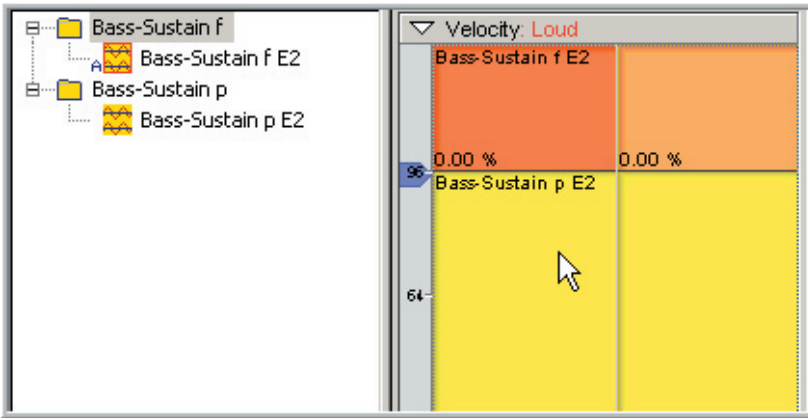
2. To see how this works, select each of the velocity splits in the Velocity Map back and forth. Notice that when you select one, its sample lights up in the Sample Window. It highlights in yellow with an orange border.



3. When you select the other velocity splits, its sample then gets highlighted in yellow with the orange border.



4. If you [drag-select] both velocity splits, both samples will be highlighted in yellow and the most recently selected of the two will have an orange border.



Now we will enable the “MIDI Select” Mode:



5. Go to the top right of the Region Window and click on the [MIDI Select] button to turn this feature on. The Button will light up.

MIDI Select enables regions, dimensions and velocity splits to be automatically selected by the incoming MIDI data.

6. Play the bass note again at various velocities. When you play loud, the top velocity is selected and highlighted as if you clicked on it with the mouse. A lower velocity selects the bottom split the same way. Also, the samples light up in the Sample Window. This allows you to instantly locate any region, dimension, velocity split and sample by playing it via MIDI instead of having to hunt and peck for it. This ensures that you are indeed editing the correct sample. As we get to more complex dimensions and more regions, this will be an invaluable tool.

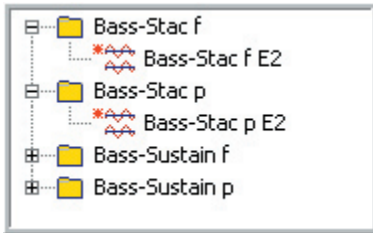


7. You will need to turn the MIDI Select off when you are tweaking various parameters.

For example if you are playing a note in real-time as you adjust a filter on the bottom velocity, you don't want this MIDI Select tool constantly throwing you to the top velocity split every time you play too loud. This is a tool that you will toggle on & off depending on what you are doing.

MIDI Controller Splits:

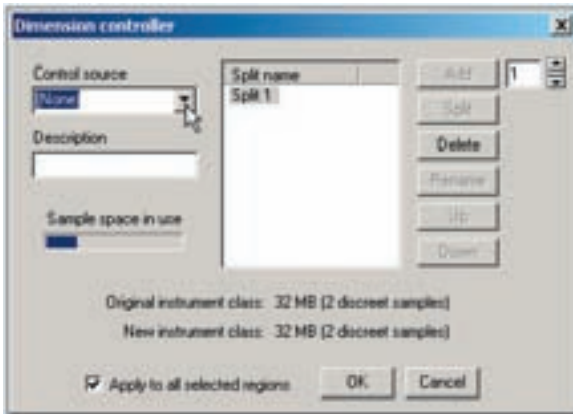
Now we will add another dimension to the sustaining bass note we have been working on. This will be a Mod-Wheel Dimension Split that will allow the Mod-Wheel to switch between the sustain samples and some short staccato samples, each with two velocities.



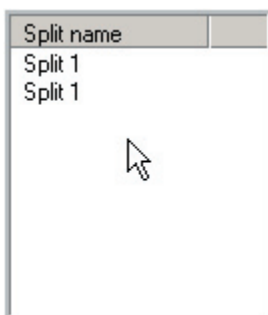
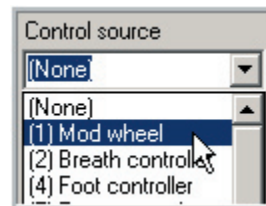
1. Import the two Bass-Staccato Folders into the Sample Window.
(Bass-Stac f and Bass-Stac p)



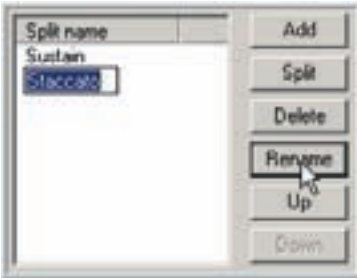
2. Click on the [Menu Bar] at the top of one of the dimensions. This will bring up the Dimension Controller window. You can use any of the dimensions but to keep it simple, use the top one.



3. On the Control Source menu, choose "(1) Mod wheel"

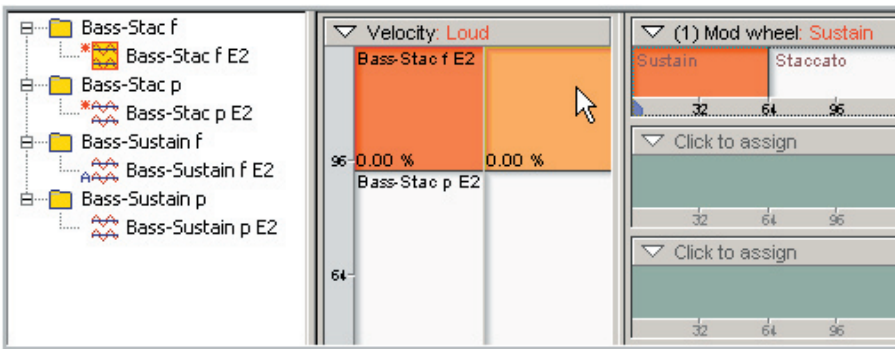


4. That will create "two" splits in the Split Names section.

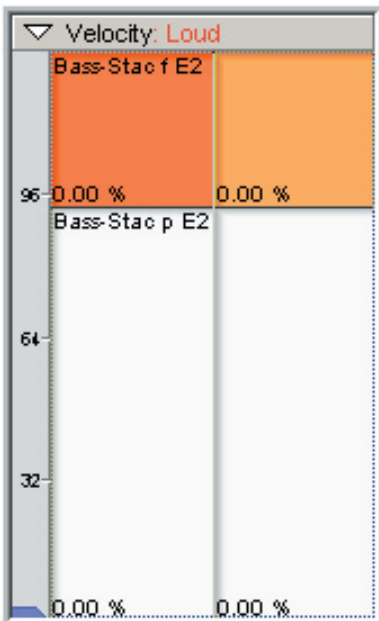


5. Rename these to Sustain & Staccato from top to bottom. The name limitation here is 12 characters. Then click on [OK].

6. Now we have two Mod-Wheel Dimension Splits and two Velocity Splits.

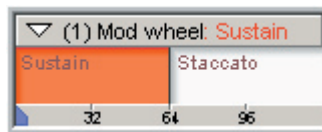


If you click on a dimension, three things will happen:

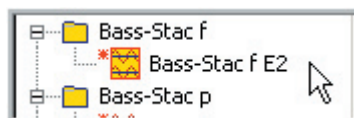


- It will be highlighted in the Velocity Map and the custom velocity name will be displayed in the red text at the top. (Left)

- It will also highlight the Dimension Map and the custom dimension name will be displayed in the red text at the top. (Below)



- The sample from that dimension will highlight in the Sample Window.



7. Click on the various dimensions to see how everything interacts:



Dimensions:
Bottom Velocity & Mod Wheel Split 1

Dimension Names:
(Soft & Sustain)
Sample:
Bass-Sustain p E2



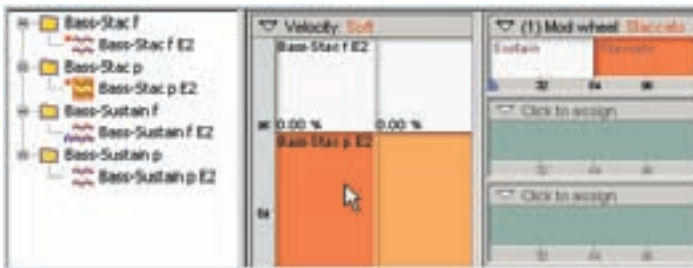
Dimensions:
Top Velocity & Mod Wheel Split 1

Dimension Names:
Loud & Sustain
Sample:
Bass-Sustain f E2



Dimensions:
Top Velocity & Mod Wheel Split 2

Dimension Names:
Loud & Staccato
Sample:
Bass-Stac f E2

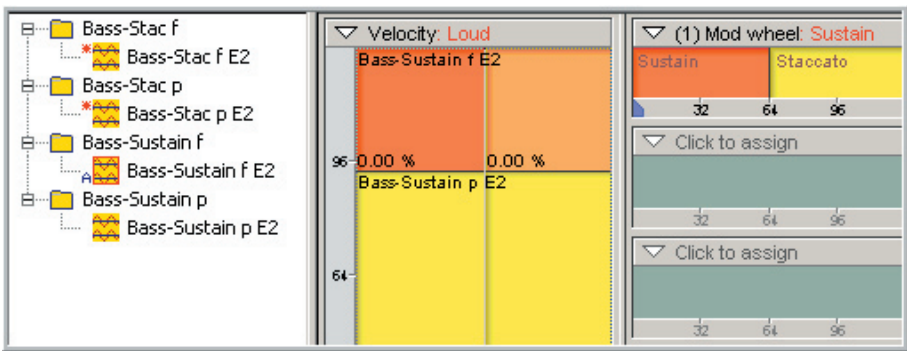


Dimensions:
Bottom Velocity & Mod Wheel Split 2

Dimension Names:
Soft & Staccato
Sample:
Bass-Stac p E2

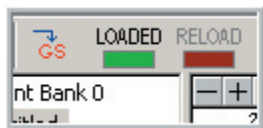
8. Last but not least before moving on, try [drag-selecting] all the velocity and dimension splits at once with the mouse.

- In this case, everything is highlighted in orange or yellow depending which dimension was the most recently “clicked on” when dragging.
- All the samples are highlighted in the Sample Window as well. The most recently “clicked on” dimension sample has the orange border.



Be sure to experiment with every combination of clicking & dragging and watch what it does on the screen. This is how you will select specific samples or groups of samples to make edits to them in the future.

9. To hear the results of this new dimension, click on the [Download] button again. This will save the new changes and load the instrument. The reload light will go off.



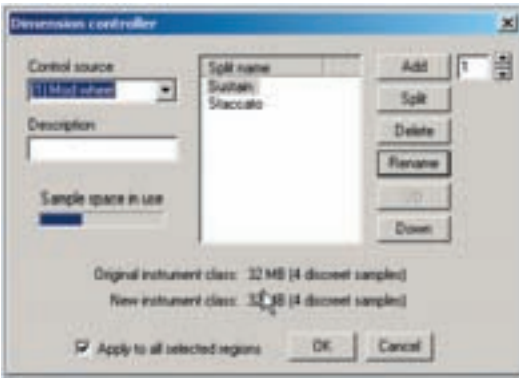
Switching the Order of Dimension Splits:

A new feature of the Editor in GigaStudio 3.0 is the ability to quickly re-order the Dimension Splits.

Changing the Split Order:



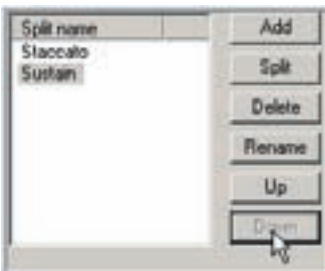
1. Right now, in the Mod Wheel dimension split, the Sustain samples are on the left (Mod Wheel-Down) and the Staccato samples are on the right. (Mod Wheel-Up)



2. Click on the Dimension [Menu Bar] to bring up the Dimension Controller Window.

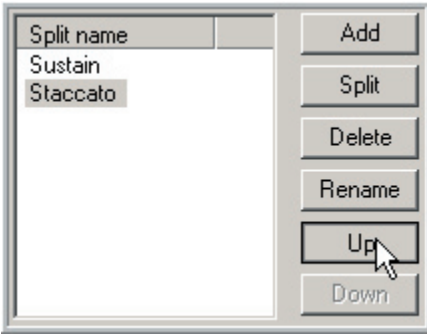


3. Click on the "Sustain" Split Name.



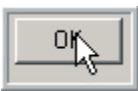
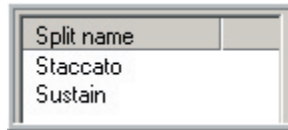
4. Click on the [Down] button to move it below the Staccato Split name.

Now the Staccato is on top and Sustain is on the Bottom.

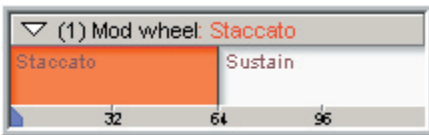


5. You can also do the opposite and select Staccato, and click on the [Up] button.

The result is the same. The Staccato is on top and the Sustain is on the bottom now.



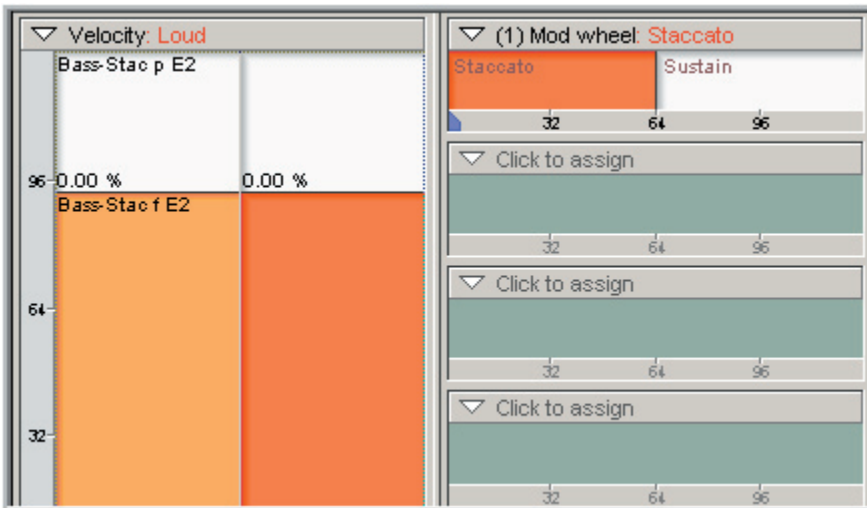
6. Click on [OK]



7. Now the Staccato Samples are on the left (Mod Wheel-Down) and the Sustain samples are on the right. (Mod Wheel-Up)

8. You can also do the exact same thing with the Velocity Splits. Just click on the Velocity Map [Menu Bar] instead and then re-order the Velocity Split Names. (Soft & Loud)

9. Now we have reversed Velocity and Mod Wheel Splits.



Changing the Dimension Controllers:

Another very important skill to know is how to change between different dimension controllers. Dimension Controllers can be easily changed without having to re-map the samples and this can be done across the whole instrument. If you don't like the controller that has been assigned in a library you have, you can change it to something else. Also, if you are designing your own instrument, the ability to make these changes allows you to change your mind and experiment.

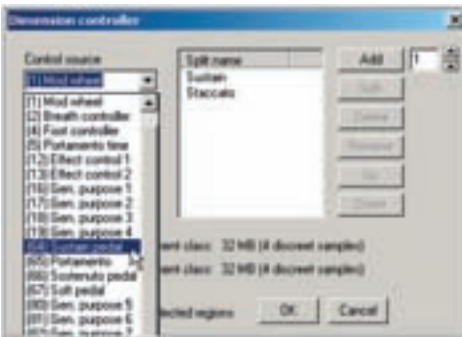
Using the same tutorial instrument, you can change the Mod-Wheel dimension split to any other MIDI controller. We'll cover a few examples next.

Change to Sustain Pedal:



1. Click on the [Menu Bar] bar of the Mod Wheel dimension split.

2. Click on the [Drop Down] arrow in the Control source and choose "Sustain Pedal" and then click on [OK] to apply this change.

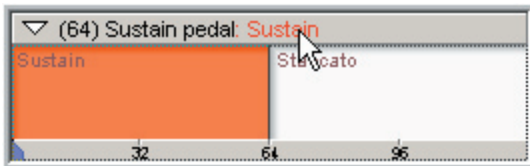


3. Now the dimension controller is changed to the Sustain Pedal.

4. Now, instead of the Mod-Wheel switching between the Sustain and Staccato samples, the Sustain Pedal will change them instead. You will need to re-load the instrument to hear this change

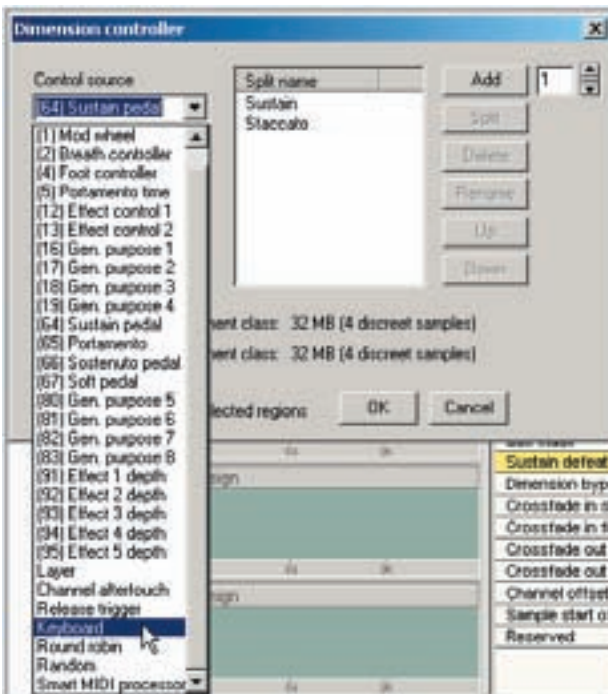
Change to Key-Switch:

Next we will change this to a Key-Switch dimension. This will allow us to use any key on the MIDI keyboard to change between the Sustain and Staccato samples.

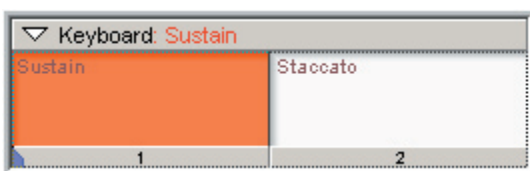


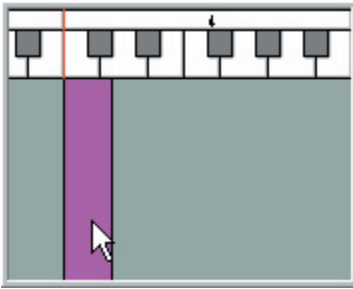
1. Again, click on the [Menu Bar] of the Sustain Pedal dimension switch.

2. This time, change the controller to “Keyboard” and click on [OK].



3. Now the dimension has been changed to “Keyboard” also known as Key-Switch.

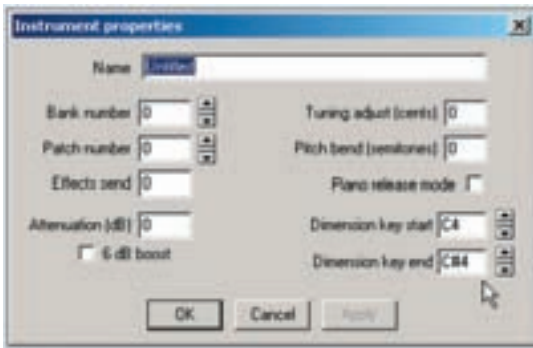




4. Once you create a Key-Switch dimension, the gray colored region will now turn “purple”

This is where you choose which MIDI keys will toggle between the Sustain and Staccato samples, just like the way the Mod-Wheel and Sustain Pedal did. In this example, we have the range set to C4-C#4. This region works just like normal regions and can be dragged and resized the same way.

5. Alternatively, this range can be set numerically in the Instrument Properties window. [Double-Click] on the Instrument to get to this window.



6. You will need to re-load the instrument to hear this change.

7. Now, triggering C4 will change to the Sustain samples and triggering C#4 will change to the Staccato samples. Play C4 and then play the instrument note to hear the Sustain samples, then Play C#4 and play the instrument note again to hear the staccato. This is a two-hand technique. One hand is for playing the Key-Switch and the other for playing the notes.

Change to Round Robin:

The procedure is the exact same as the previous two examples. Change to the Round Robin this time for the dimension controller.

What this will do is automatically change back and forth between the Sustain and Staccato samples every time you play the instrument. Reload the instrument and play the instrument note repeatedly to hear how this works.

Dimensions for Alternate Edit Parameters:

Another use for Dimension Switches is to change between alternate Parameter edits of the same samples.

Examples:

- Change between Filtered and Unfiltered variations.
- Change between different ADSR settings.
- Change between different Velocity Curves or Velocity levels.

Load and play the Tutorial Instrument “Bass Note 4-Way Mod.GIG”

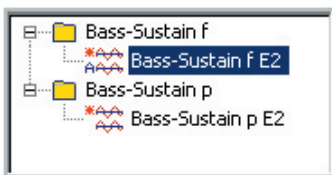
This instrument is a good example of how dimensions can be used to play the same exact samples but with different edit variations. In this instrument, the Mod-Wheel will switch 4 ways between the following options.

- Normal Sustain
- Filtered Sustain
- Slow Attack Sustain
- Short Release Sustain

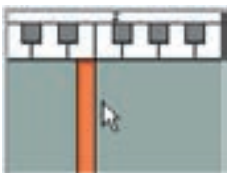
Layer Dimension:

So far we have covered basic switching dimensions that use MIDI controllers or Velocity to change the samples that are played back. Another type of dimension is the Layer. This allows you to layer several samples on top of one another to be played back at the same time. You can also adjust or control the volume of the individual layers and even do a MIDI controlled cross-fade between layers.

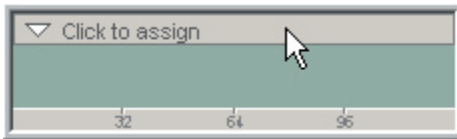
In this example, we will create a simple two-way layer and put a Mod-Wheel cross-fade on it.



1. Start with a new blank instrument and import the Sustain Sample Bass note directories into the Sample Window.

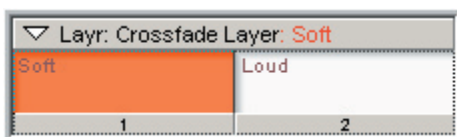
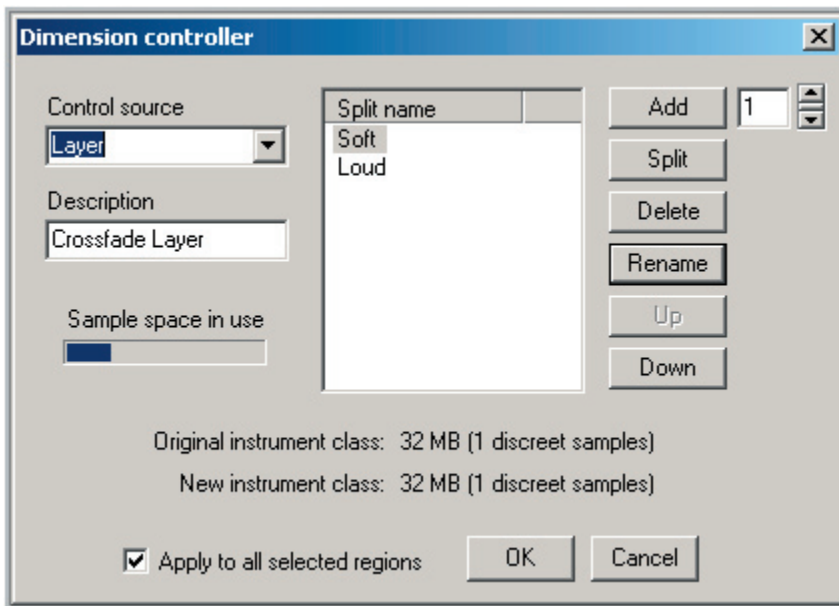


2. Create a Stereo region at E2 again.



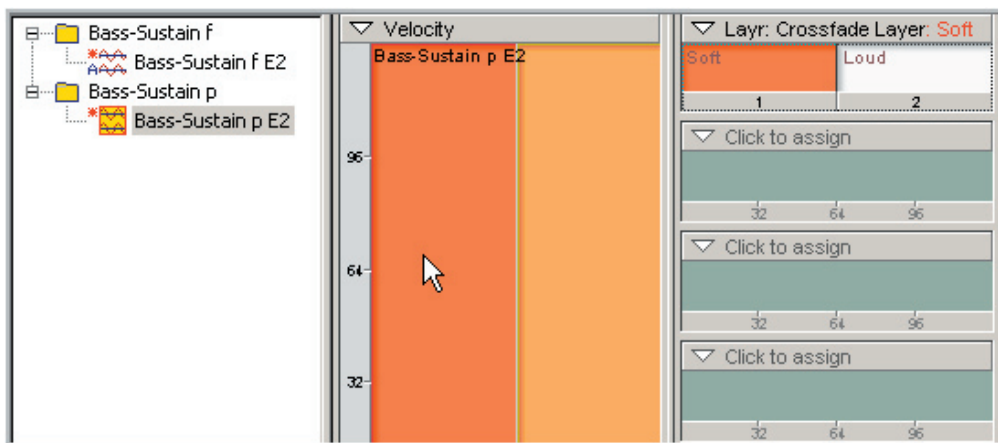
3. Click on the [Menu Bar] on the top empty dimension to bring up the Dimension Controller window.

4. Set the Control source to “Layer”
 Type in a Description and name the Split names to Soft & Loud.
 Click on [OK]

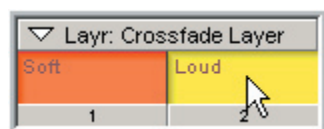
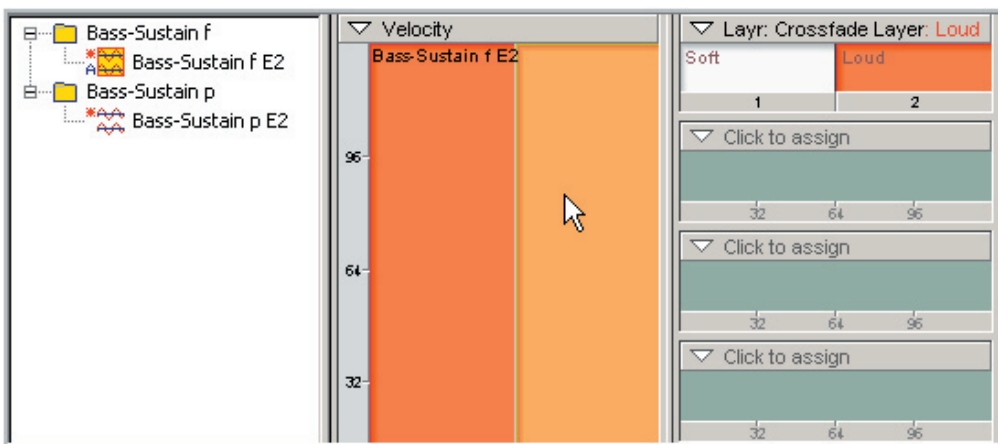


5. Now we have a Layer dimension split with Soft on the left and Loud on the right.

6. Select the Soft dimension split and map “Bass-Sustain p E2” to the velocity map.



7. Select the Loud dimension split and map “Bass-Sustain f E2” to the velocity map.



8. Select both the Layer dimensions.

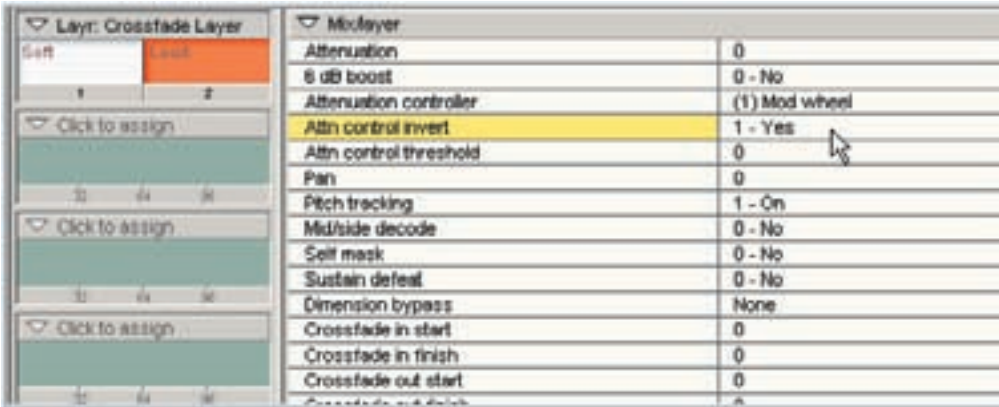
9. Click on the [Menu Bar] in the Edit Parameters window and choose “Mix/Layer” That will bring up the Mix/Layer menu.

All parameters	
All	
EG1 (amplitude)	
EG2 (filter)	
EG3 (pitch)	127
LFO1 (amplitude)	0 - Nonlinear
LFO2 (filter)	1 - High
LFO3 (pitch)	20
Filter	0 - Nonlinear
Response	1 - High
Response	3
Mix/Layer	
Sample	0
Attenuation controller	0 - No
Attn control invert	None

10. Click on the word “None” in the “Attenuation controller” line and then select “Mod wheel” This will set the Mod-Wheel to control the volume of both layers in real time.

Mix/layer	
Attenuation	0
6 dB boost	0 - No
Attenuation controller	None
Attn control invert	None
Attn control threshold	(1) Mod wheel
Pan	(2) Breath Controller
Pitch tracking	(4) Foot controller
Mid/side decode	(5) Portamento time
Self mask	(12) Effect control 1
Sustain defeat	(13) Effect control 2
Dimension bypass	None
Crossfade in start	0
Crossfade in finish	0
Crossfade out start	0
Crossfade out finish	0

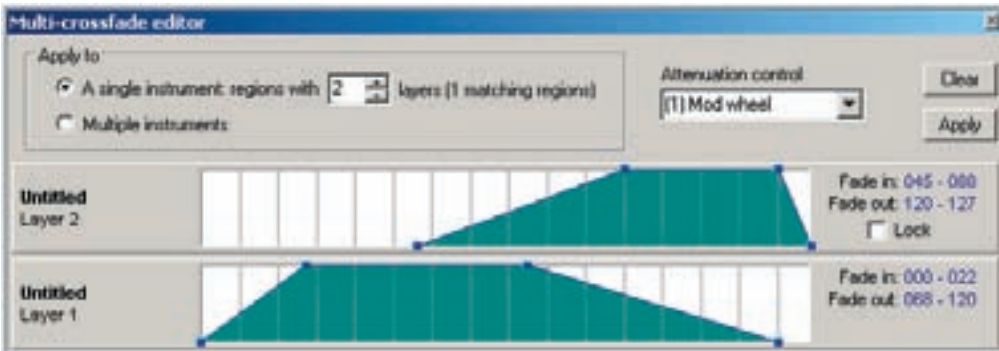
11. Select the Loud layer dimension. Then set the Attenuation controller in the Edit Parameter window to "Yes" This will reverse the Mod-Wheel for the loud layer and create a simple cross-fade using the Mod-Wheel between the loud & soft layers.



12. Save the instrument and load it to a MIDI channel.

13. Hold down the Note E2 while moving the Mod-Wheel back and forth. You should hear a smooth cross-fade between the soft and loud layer.

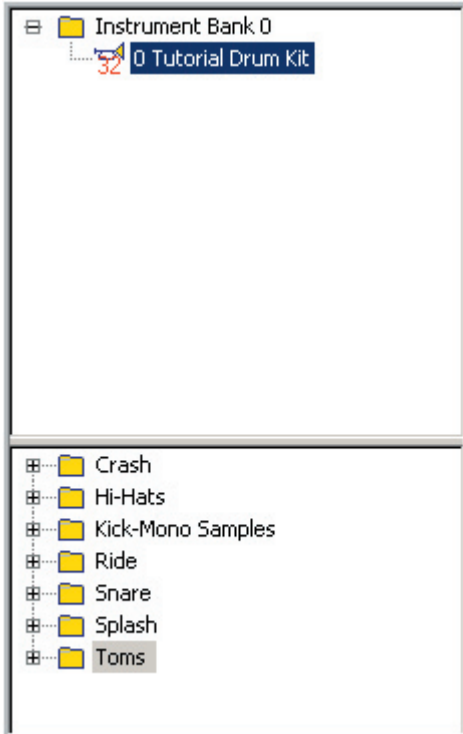
You can also do custom in and out points using the Cross-Fade Layer Tool, which is covered in detail in its own section. This tool can handle up to 8 stereo layers.



How to Map Samples-Advanced

In this lesson, we will create a full drum kit with several advanced features that will utilize many of the Editor features. Since this is a Drum Kit, all of the mapping will be [drag & drop] using the [Right] mouse button. (To Disable Pitch Tracking)

- Multiple Velocities
- Stereo and Mono Regions
- MIDI Controller Dimension for Hi-Hat Open & Close
- MIDI Controller Dimension for Snares On & Off
- Self-Masking on the Cymbals to save Polyphony
- Low Pass Velocity controlled Filters on the Toms & Bass Drum



The first thing to do is to create a new instrument.

Import all the Tutorial Drum Kit folders into the Sample window.

These can be found in the “Editor Tutorial Files” directory for this chapter. (HowTo Map Samples-Advanced)

In the Bank-Instrument window you can name the instrument to “Tutorial Drum Kit”

You can also delete the “Default Sample” folder to keep the Sample window from getting too cluttered.

The final result should look like this diagram on the left.

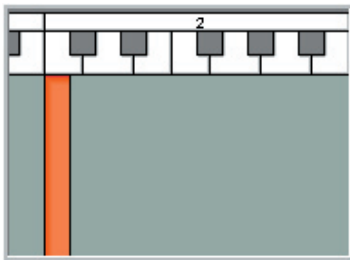
Now we are ready to start creating a drum kit.

Kick Drum:

- The Kick Drum has 4 Velocities of Mono samples.
- We will create two identical regions of the Kick Drum for Left-Right playing style. (Like a Double Kick Setup)
- To do this, we will complete the first region and then copy and paste it to create the second one.
- There will also be a low pass filter controlled by velocity so that the tone is dark when played soft and gets brighter the louder it is played. This combined with the 4-way velocity split makes for a smooth and realistic transition from soft to loud.
- We will also adjust the Release Time of the Kick Drum.

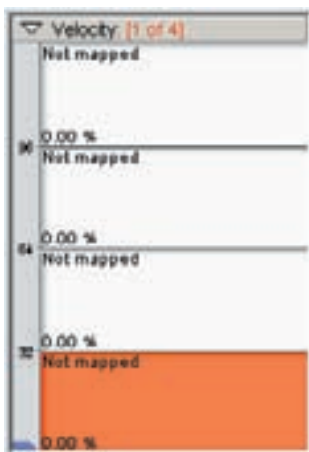


1. Go to the Edit/Preferences Menu and setup the Velocity splits dialog for 4-Velocity splits. Leave the Stereo box unchecked since these samples will be mono.



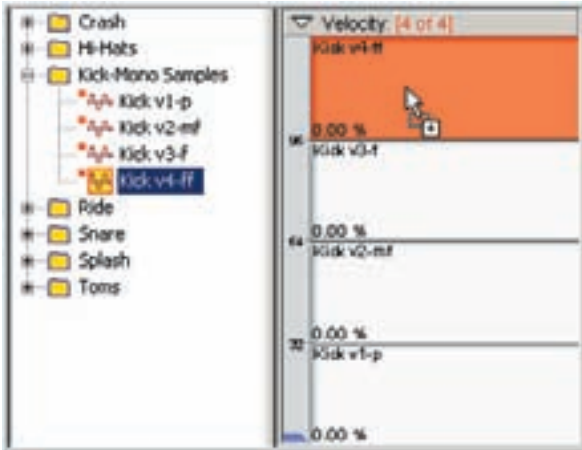
2. [Right-click] under C-2 in the Region and choose "New region" from the context menu.

This will create a new region at C2.

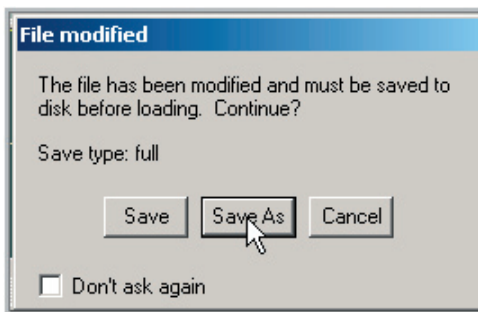
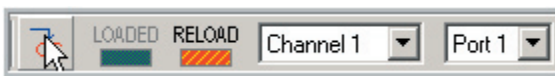


3. This new regions will have 4 mono velocity splits ready to be mapped out with Kick Drum samples.

4. [Drag & drop] the Kick Drum samples to the 4 velocity splits as shown below. Be sure to use the [right] mouse button to disable the pitch tracking. We want all the samples to play at their original pitch.

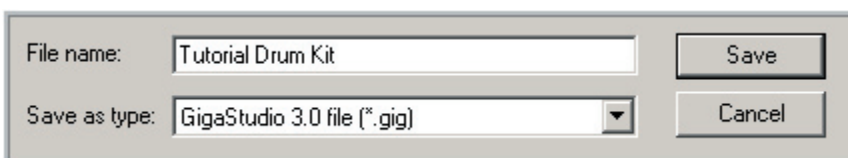


5. At this point, it would be nice to hear the results as we edit the Kick drum parameters & velocity split points. Click on the [Download] button.

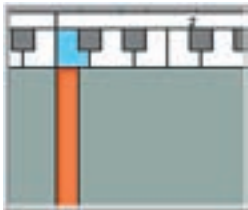


6. Choose the Save As option.

7. Find a place on your Giga Sounds hard drive to save this instrument. Enter a File name and click on [Save].

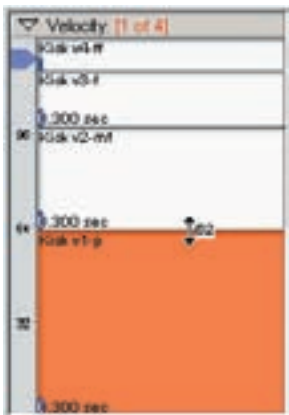
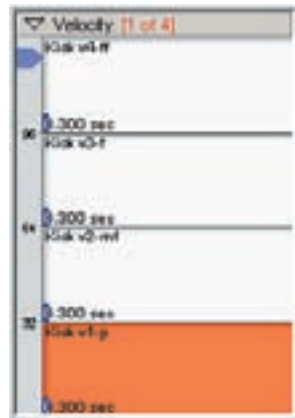
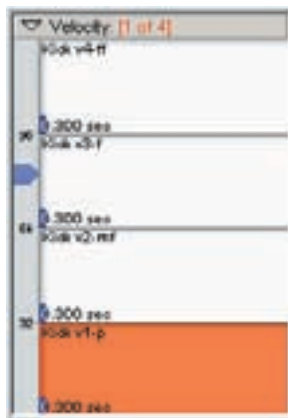
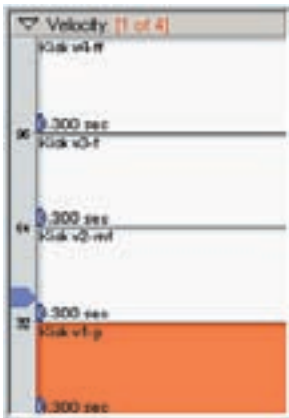


8. Once the instrument is loaded, the Load indicator light will turn green and you should be able to hear the Kick Drum if you play C-2 on the keyboard.



9. The note will also light up in blue when you play

10. The blue arrow will move to the velocity levels you play in real time. This will help in adjusting the Velocity Split points to be able to see them as you play.



11. Drag the Velocity Split point divider lines to adjust the splits until they sound and feel right. Play the Kick drum and use the blue arrow as a guide as you adjust the split points.

This example shows a popular velocity split setting that works great on percussive instruments. Many keyboards don't reach the very low velocity range so it helps to make the lowest velocity a little larger than the rest so you can hear it. The top velocity is way up high so that it only triggers when you really hit the key fairly hard.

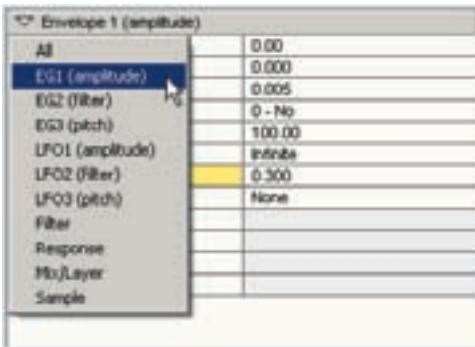
The next step is to put a longer release time on this Kick Drum. The default release time is a bit too short.



12. Select all the velocity splits of the Kick drum so that they are all highlighted.

This way, any edits we perform will apply to all of them at once.

13. In the Edit Parameters window, click on the [tool bar] and choose “EG1 (amplitude)” from the context menu. This will bring up the Amplitude ADSR section.



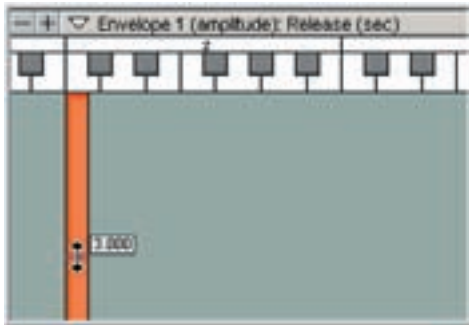
14. Change the Release time with the mouse or with text entry. You can experiment with different settings in real time as you play the Kick Drum to find a good setting. Around 3 seconds will cover the whole decay of the Kick Drum.

Default of 0.300 Sec:



Set to 3 Sec:





15. You will notice that in the Drag Tools menu that Envelope 1 Release time has been selected.

Anything you select in the Edit Parameters window will be automatically selected here as well.

By dragging the blue dot on the Kick Drum region, you can adjust the release time here.

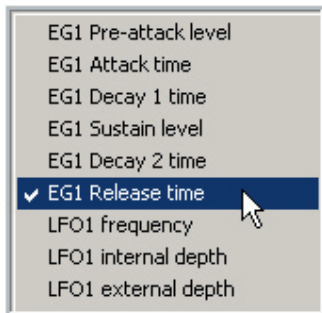
This is another option for editing various parameters in addition to the Edit Parameters window and the Waveform View window. It will come in very handy for editing multiple regions at once.

You can also select various parameters by clicking on the [tool bar] of the Drag Tools and choosing the parameter you want to edit from the context menu.

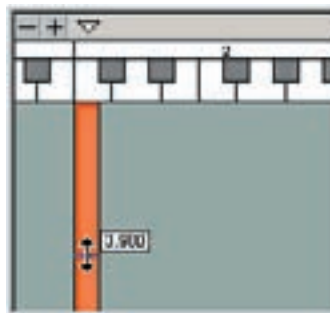
Click on [Tool Bar]:



Select Parameter:



Edit Parameter:



The last thing to apply to this Kick Drum is a simple Low Pass Filter. This will make the tone of the Kick Drum Samples get brighter as you play louder and darker as you play softer.

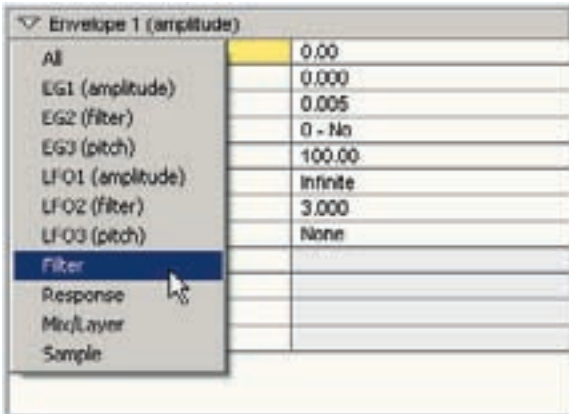


16. Make sure all 4 Velocity Splits are still highlighted. This filter will span all 4 splits.

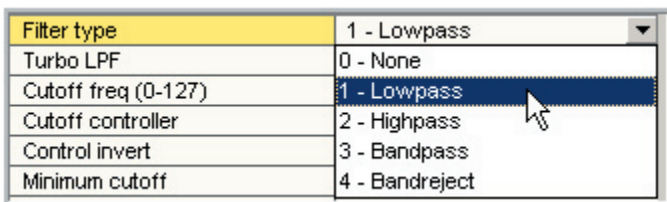
You can however have individual filter settings for each velocity split if you want.

Also notice how the Release time (3.000 sec) is indicated here as well.

17. Go back to the Edit Parameters window and change to the Filter section.

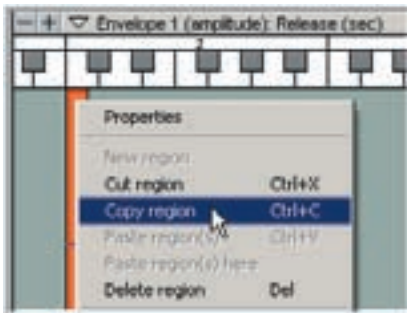


18. Set the Filter type to the Low pass Filter.

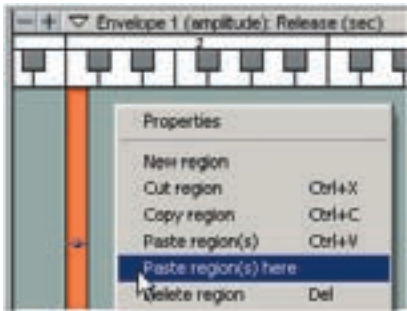


19. Now, play the Kick Drum and notice how the tone gets darker or brighter depending on how hard you play. There are two types of tone change happening here at once. One is the sound of the velocity switching between loud to soft recordings of the Kick Drum. The other is this Filter. Between these two things, you can get a fairly smooth transition from soft to loud. Feel free to experiment with other filter settings.

The final step for the Kick Drum is to create a second region so that we have two keys to trigger. (Like a double Kick setup)



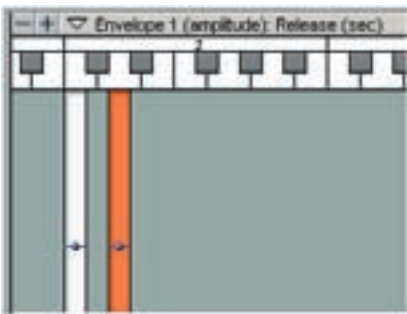
20. [Right-Click] on the Kick Drum Region and Choose "Copy region" from the context menu.



21. Now, [right-click] in the empty space under the note D-2.

This will bring up the context menu again.

Choose "Paste region(s) here"



22. Now we have two identical regions of the Kick Drum on C2 and D2.

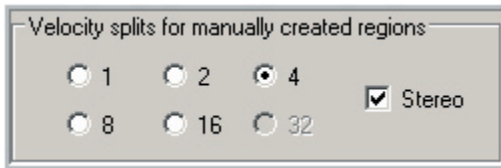
All the editing done to the original is carried over to the new region as well as the sample mapping.

It is literally a clone but on a different key.

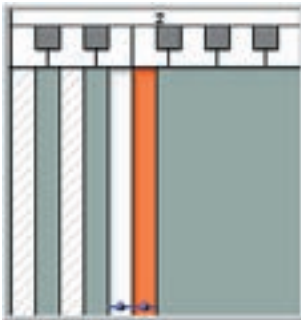
Snare Drum:

The next part of the drum kit to map out is the Snare Drum.

- This drum will have separate Left and Right samples.
- These samples are stereo with 4 velocities.
- There are also samples with the snares off. (One set with 4 velocities)

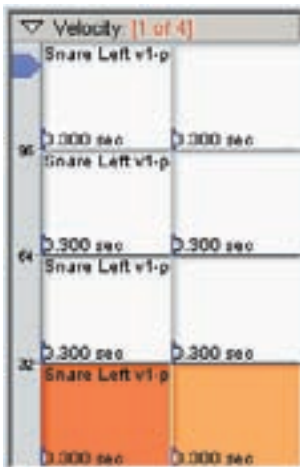


1. Go back to the Edit/Preferences screen. Since we are now dealing with stereo samples, check the “Stereo” check box in the manually created regions section.

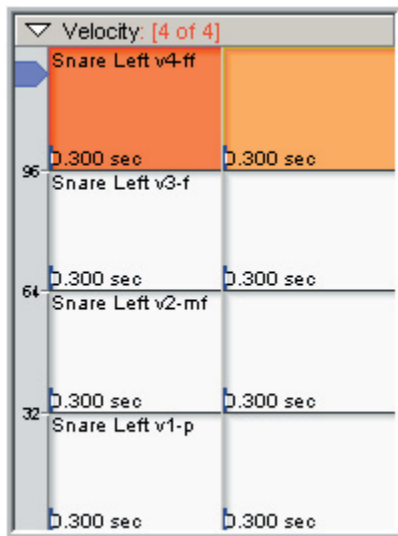


2. Create two new regions at E-2 and F-2. These will be the Left and Right snare samples.

Notice how these new regions are solid while the Kick Drum regions have diagonal hash marks. This differentiation indicates that these regions are different from each other in some way. In this case the difference is that the Kick regions are mono while the Snare regions are stereo. If you select the Kick drum regions, those will turn solid and these Snare regions will get the hash marks.



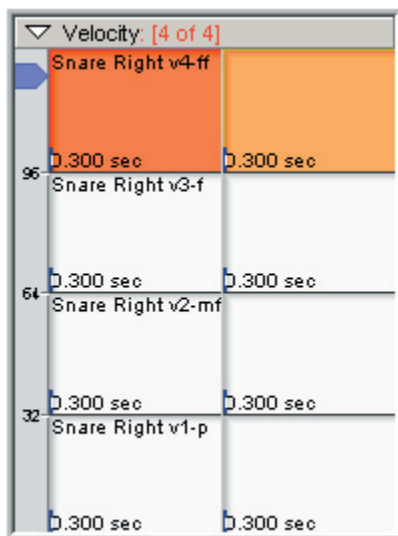
3. The Velocity Map for these new regions shows a Stereo Split and 4 Velocity Splits, just like the setting in the Edit Preferences window.



4. Select the Left Snare region (E-2).

[Drag & Drop] the Left-Hand Snare samples from the Sample window to the 4 velocity splits using the [right] mouse button.

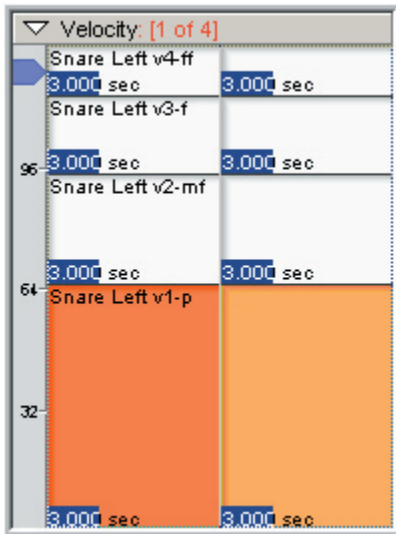
Snare Left v4-ff
 Snare Left v3-f
 Snare Left v2-mf
 Snare Left v1-p



5. Select the Right Snare region (F-2).

[Drag & Drop] the Right-Hand Snare samples from the Sample window to the 4 velocity splits using the [right] mouse button.

Snare Right v4-ff
 Snare Right v3-f
 Snare Right v2-mf
 Snare Right v1-p

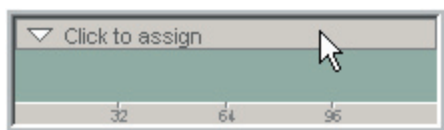


6. Adjust the Velocity Split Points and the Release Time of both Snare Drum regions just like with the Kick Drum.

You can also apply the Low Pass Filter at this point.

Now we want to add the Snare Off samples in a useful way.

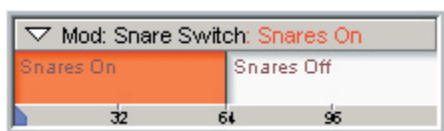
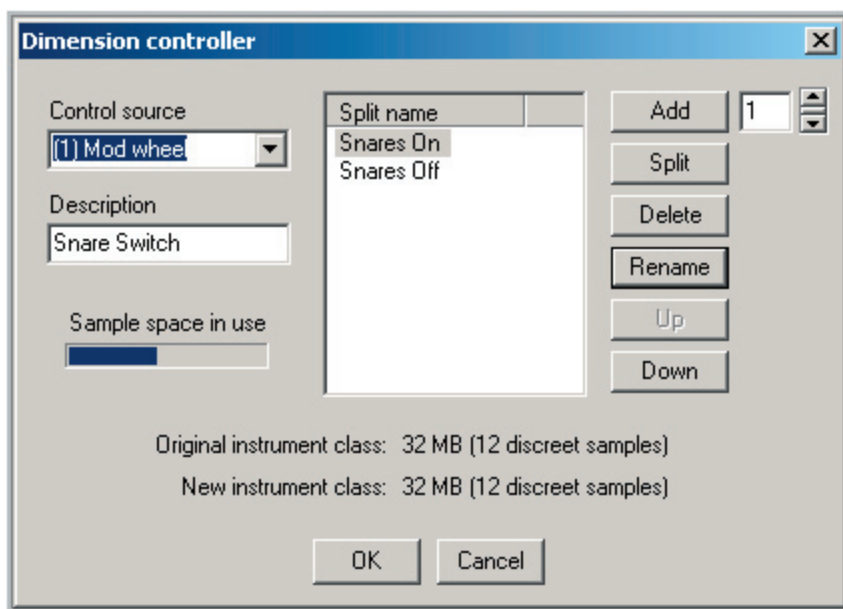
- In this case, we will create a Mod-Wheel controlled dimension that will switch the snares on & off so to speak, like a snare drum switch.
- Moving the Mod-Wheel forward beyond the halfway point will switch to the “snares off” samples while moving it back will switch back to the “snares on” samples.
- Also, there is only one set of “snares off” samples in these tutorial samples. There are no Left and Right hand samples so we will map the samples to both regions.



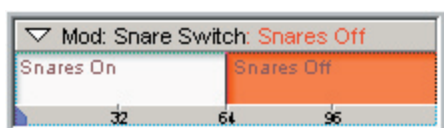
7. Click on a Dimension [Tool Bar].

8. In the Dimension Controller window:

- Set the Control source to Mod-Wheel.
- Enter “Snare Switch” in the Description.
- Rename the Splits to “Snares On” and “Snares Off”
- When you’re done, click on [OK].

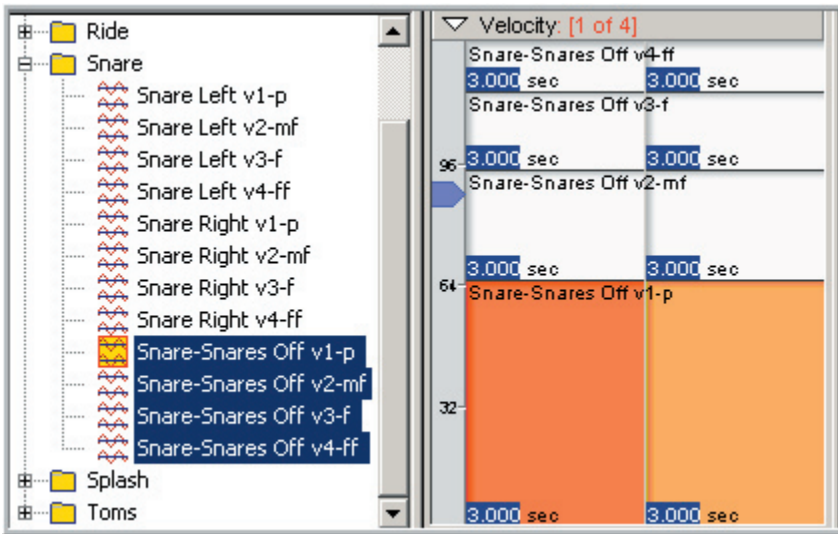


9. The result is a labeled dimension switch.



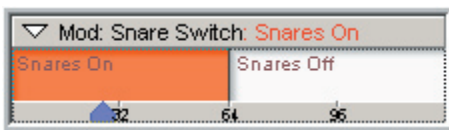
10. Select the Left Snare region and then select the “Snares Off” dimension.

11. Map out the 4 “Snares Off” samples to the velocity map. Repeat this with the Right snare region so that both regions have “Snares Off” samples.

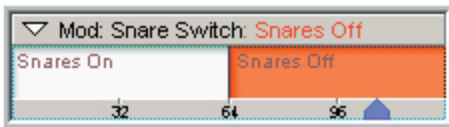


12. Click on the [Download] Button to hear the latest results.

13. Play the Snare samples while moving the Mod-Wheel back and forth.



Mod-Wheel Back-Snares ON

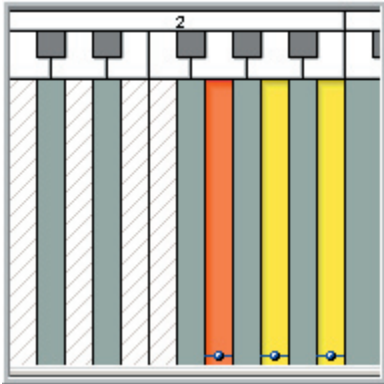


Mod-Wheel Forward-Snares OFF

The Tom samples also have Snare on and Snare off variations so we will do the same thing with them in this next section.

Toms:

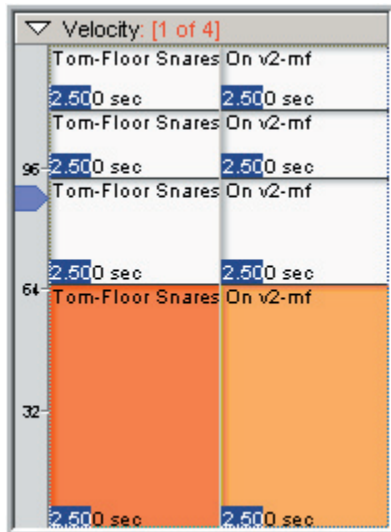
- There are three sets of Tom samples: High, Mid and Floor.
- They are stereo with 4 velocities.
- There are Snare On and Snare Off samples. With the Snare On samples, the snare drum buzz is heard when the toms are hit.



1. Create 3 new regions, one for each Tom. Put them on G2-A2-B2.

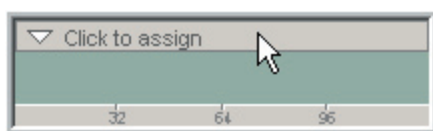
The regions should automatically be stereo with 4 velocity splits as before with the snares based on the Edit/Preferences settings.

Select all three of them so that the following edits will apply to all of them.



2. Using the same techniques as with the Kick and the Snare, adjust the Velocity Split Points, the Release Time and add a Low Pass filter.

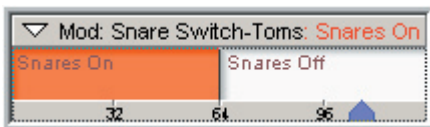
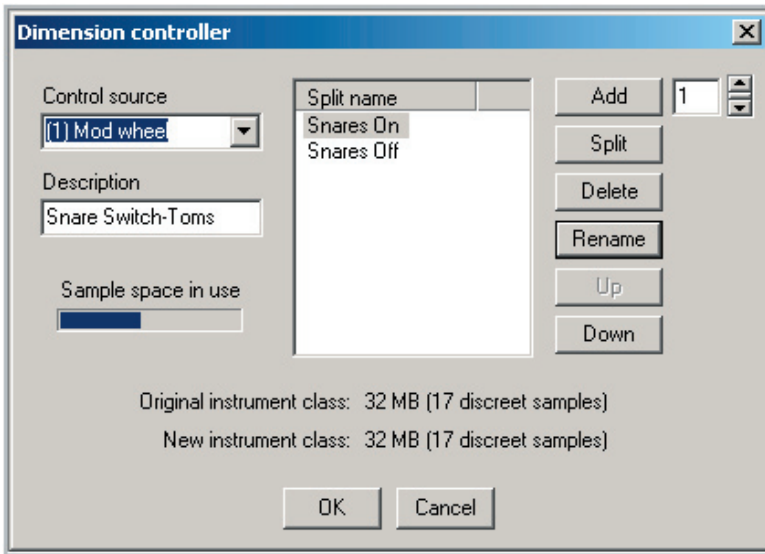
The changes should apply to all three regions at once if they are all selected in the previous step.



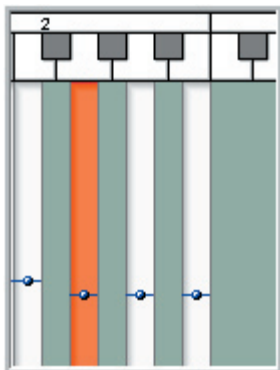
3. Click on a Dimension [Tool Bar].

4. Do the same thing we did with the snares:

- Set the Control source to Mod-Wheel
- Enter “Snare Switch-Toms” in the Description field.
- Rename the Splits to “Snares On” and “Snares Off”
- Click on [OK] when you are done.

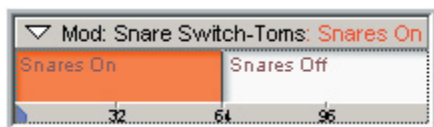


5. Now the Toms have a labeled dimension switch.



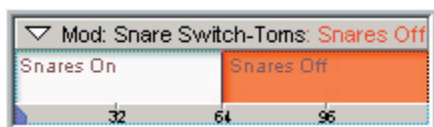
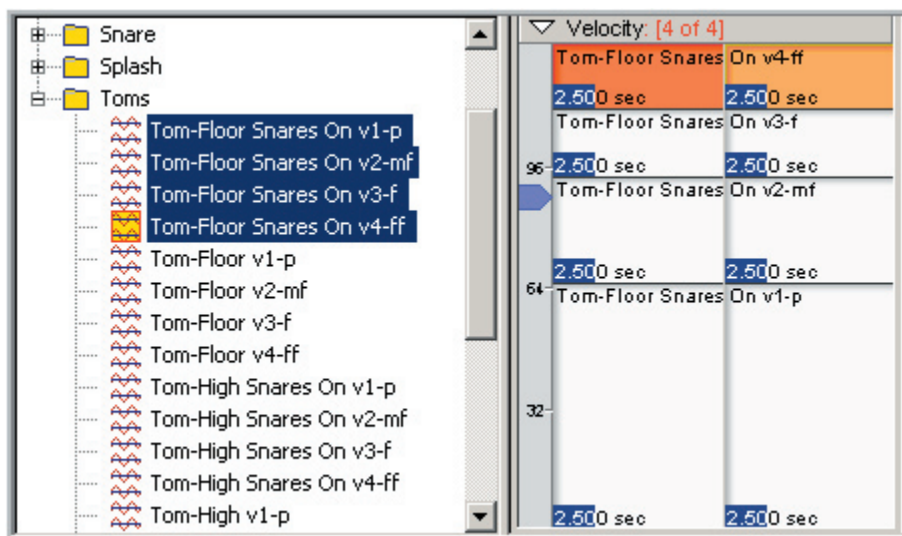
6. Select the G-2 region.

This will be the Floor Tom.



7. Select the “Snares On” dimension.

8. Map out the “Tom-Floor Snares On” samples using the [right] mouse button.



9. Select the “Snares Off” dimension.

10. Now map out the “Tom-Floor” Samples using the [right] mouse button. These samples do not have any snare buzz in them.

11. Repeat these steps for the Middle and High Toms.

Mid Tom:

- Select the A-2 Region.
- Select the Snares On dimension
- Map out the “Tom-Mid Snares On” samples.
- Select the Snares Off dimension.
- Map out the “Tom-Mid” samples.

High Tom:

- Select the B-2 Region.
- Select the Snares On dimension
- Map out the “Tom-High Snares On” samples.
- Select the Snares Off dimension.
- Map out the “Tom-High” samples.



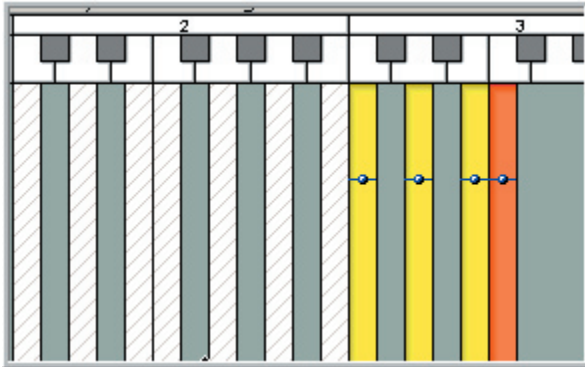
12. Click the [Download] Button to save and reload the instrument.

13. Now play the Toms while moving the Mod-Wheel back and forth. You should hear the snares turning off and on.

Cymbals:

The Cymbals are fairly straightforward:

- There are 4 sets of samples: Ride-Ride Bell-Crash-Splash.
- They are all stereo.
- They all have 4-Velocity Split Points.
- We will enable “Self Masking” to save polyphony for the long sustain times.

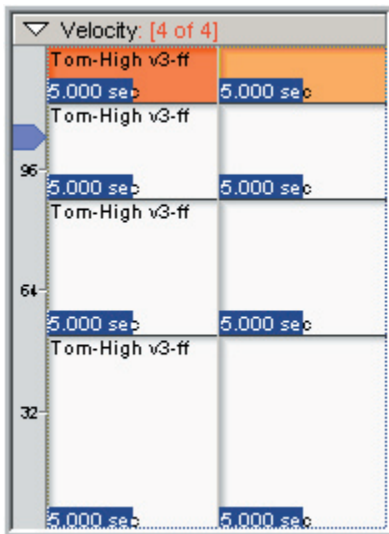


1. Create 4 new regions:

C₃-D₃-E₃-F₃

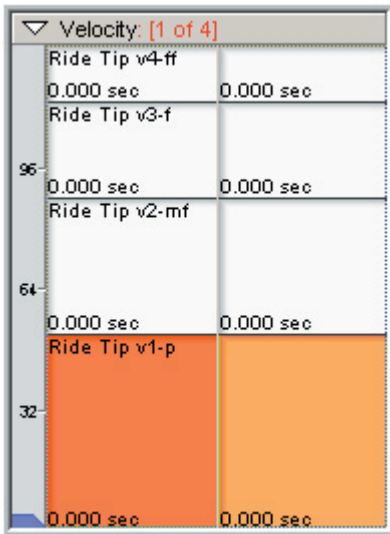
This should create 4 Stereo regions with 4 Velocity Splits.

Select all 4 of the regions.



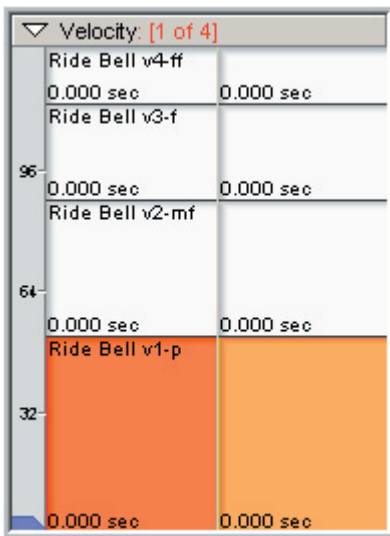
2. Give the Velocity Split points a rough adjustment as in the past examples.

Set a Release Time of 5 Seconds.



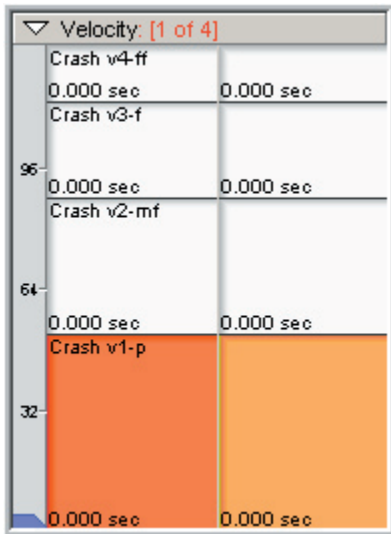
3. Select the C-3 Region in the Region window.

Map out the “Ride Tip” samples using the [right] mouse button.



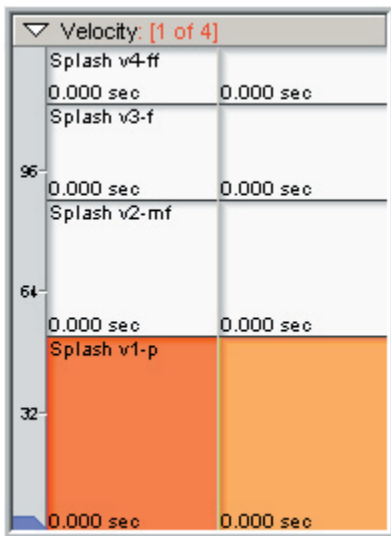
4. Select the D-3 Region in the Region window.

Map out the “Ride Bell” samples using the [right] mouse button.



5. Select the E-3 Region in the Region window.

Map out the “Crash” samples using the [right] mouse button.



6. Select the F-3 Region in the Region window.

Map out the “Splash” samples using the [right] mouse button.



7. Click on the [Download] button to save the changes and hear the results.

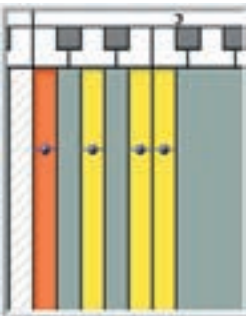
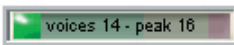
Play the cymbals and tweak the velocity split points and release times if needed.

The final thing we will do to the cymbals is enable “Self Masking” to save polyphony.

With Self-Masking enabled, playing louder velocities will shut off any sustaining softer velocities on the same region that are still decaying.

For example, these cymbals have several seconds of decay. If you play a soft note, the sample will play to the end of the decay no matter what. You could trigger a louder note while the soft sample is still decaying and drown out the soft sample. However, even though you can’t hear the soft sample any longer, it would still be using up polyphony until it is finished decaying. With Self Masking enabled, the louder note will cut off the softer note.

8. Before enabling the Self-Masking, trigger one of the cymbals several times from soft to loud and notice how much polyphony it uses.

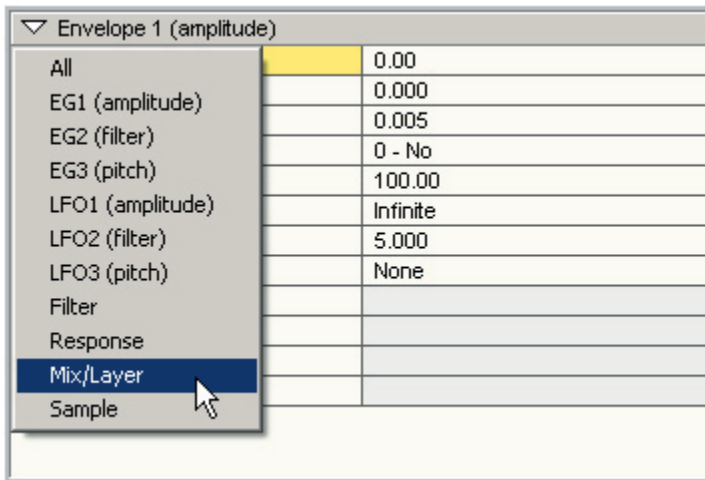


9. Select all 4 of the Cymbal Regions.

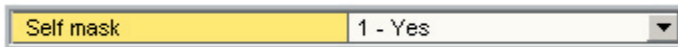


10. Select all the Velocity Splits.

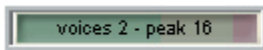
11. In the Edit Parameters window, bring up the Mix/Layer section.



12. Set the Self-Masking to Yes.



13. Now trigger one of the cymbals as before and notice the difference in the polyphony.



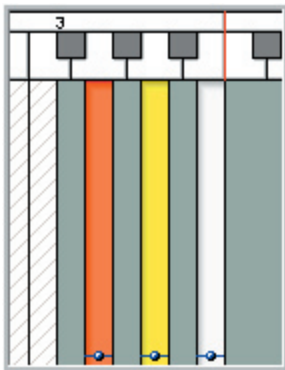
Hi-Hats:

Last but not least, we have the Hi-Hats.

- 4 Stereo Velocities of Tip Closed
- 4 Stereo Velocities of Tip Open
- 4 Stereo Velocities of Edge Closed
- 4 Stereo Velocities of Edge Open
- 4 Stereo Velocities of Foot Closed

We are going to get fancy with the Hi-Hat. The Sustain Pedal will do several things at once

- Switch between Open and Closed Tip and Edge Samples
- Trigger one of the Foot Closed Samples
- Cut off the Open Samples using a Key-Group assignment.



1. Create three more regions at G3-A3-B3

Select the Left two regions G3 & A3.

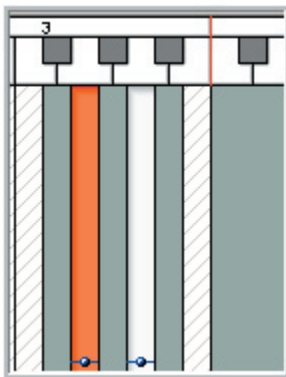
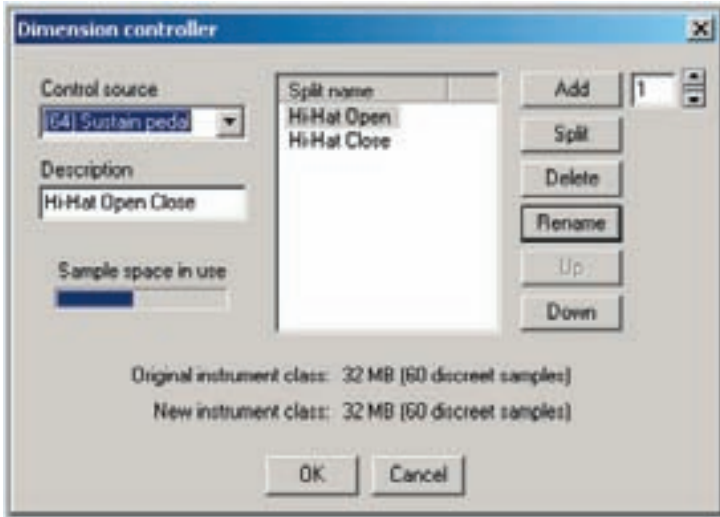
These regions will be the Tip and Edge hits and they will have a Sustain Pedal dimension split that will switch between open and closed samples.



2. Click on a Dimension [Tool Bar].

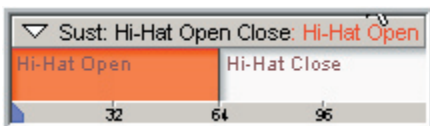
3. Do the same thing we did with the snares:

- Set the Control source to Sustain Pedal
- Enter “Hi-Hat Open Close” in the Description field.
- Rename the Splits to “Hi-Hat Open” and “Hi-Hat Close”
- Click on [OK] when you are done.



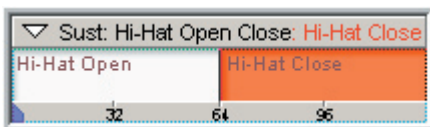
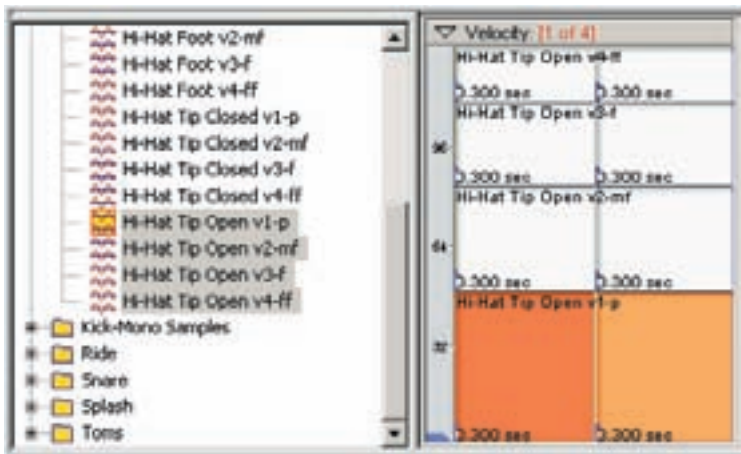
4. Select the G-3 region.

This region will have the Hi-Hat Tip samples.



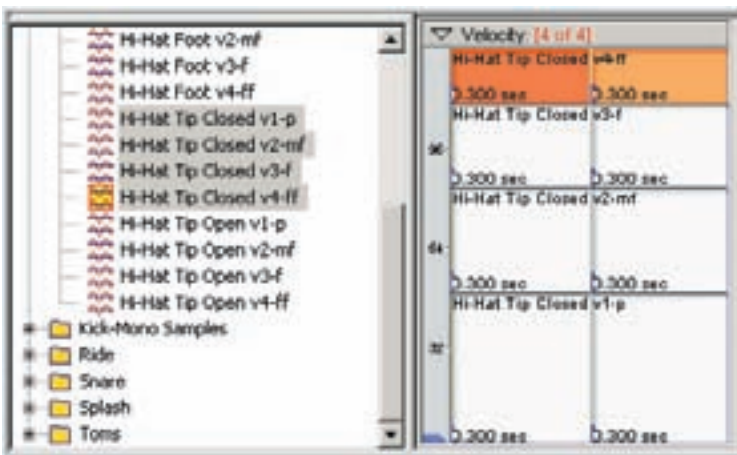
5. Select the “Hi-Hat Open” Dimension Split.

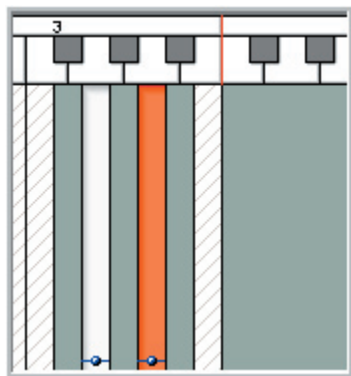
6. Map out the “Hi-Hat Tip Open” samples to the Velocity Map using the [right] mouse button.



7. Select the “Hi-Hat Close” Dimension Split.

8. Map out the “Hi-Hat Tip Closed” samples to the Velocity Map using the [right] mouse button.





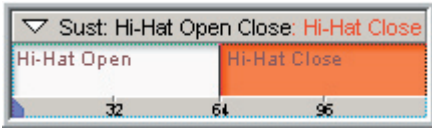
9. Select the A-3 region.

This region will have the Hi-Hat Edge samples.



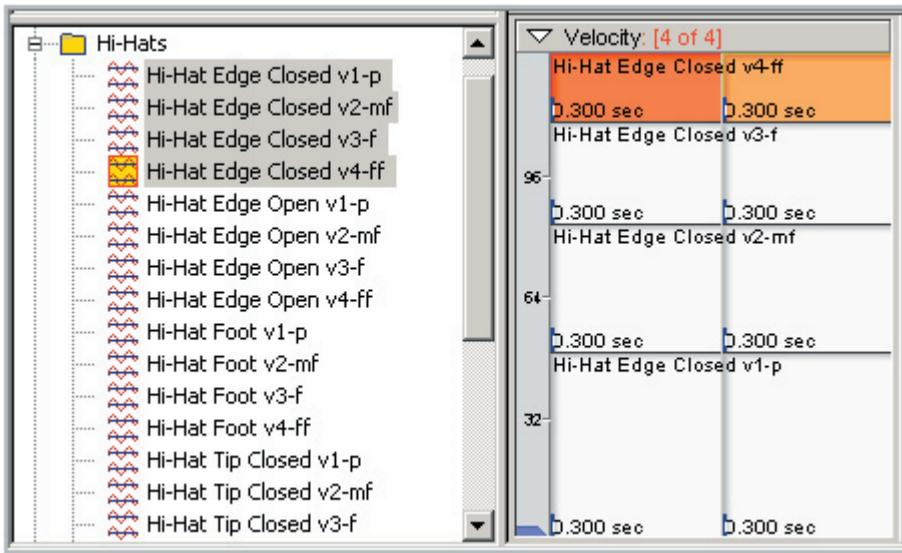
10. Select the “Hi-Hat Open” Dimension Split.

11. Map out the “Hi-Hat Edge Open” samples to the Velocity Map using the [right] mouse button.

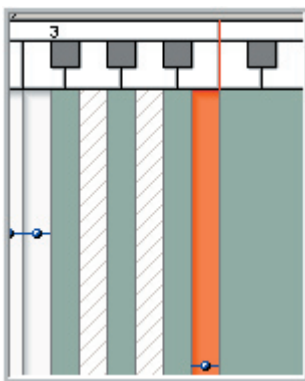


12. Select the “Hi-Hat Close” Dimension Split.

13. Map out the “Hi-Hat Edge Closed” samples to the Velocity Map using the [right] mouse button.



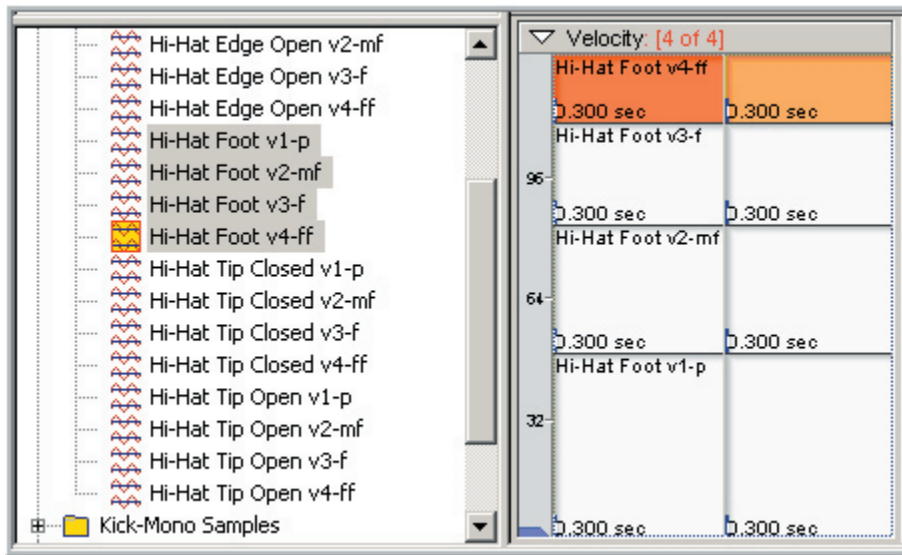
The last thing to map out is the Foot Closed Hi-Hat region.



14. Select the B-3 Region.

This will be the Foot Closed Hi-Hat.

15. Map out the “Hi-Hat Foot” samples to the Velocity Map using the [right] mouse button.



16. Click on the [Reload] Button to save the changes and hear the results.

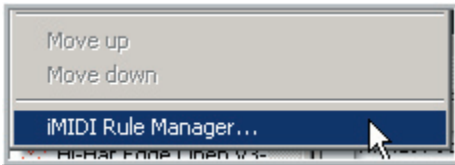
17. Play the Tip and Edge Hi-Hat regions while triggering the Sustain Pedal.

Pressing down on the pedal will change to the Closed Hi-Hat samples, just like the pedal of a real Hi-Hat.

Releasing the pedal will change to the Open Hi-Hat samples, just like the pedal of a real Hi-Hat would do.

However, there is one more thing to add to be even more realistic. When you stomp on a real Hi-Hat pedal, it closes the Hi-Hat cymbals. (Foot Closed Samples)

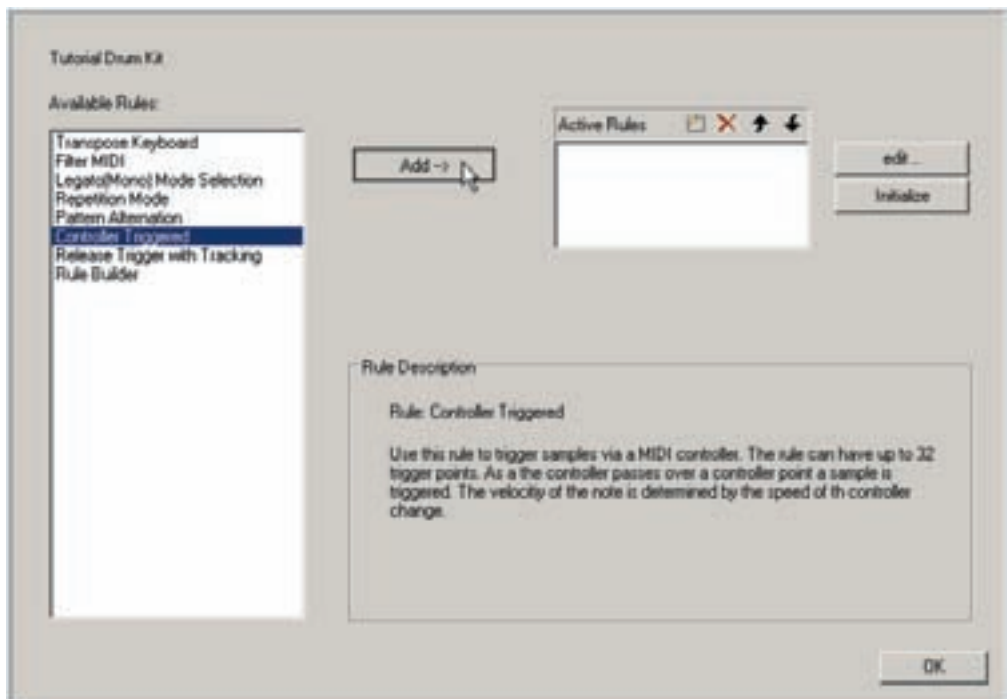
Right now, we can play the Foot Closed Hi-Hat on the keyboard but we also want the Sustain Pedal to trigger one of those samples as well. We also want it to shut off the open Hi-Hat samples when closing, just like the real thing.



18. [Right-click] in the Bank-Instrument window and choose “iMIDI Rule manager...” from the context menu.

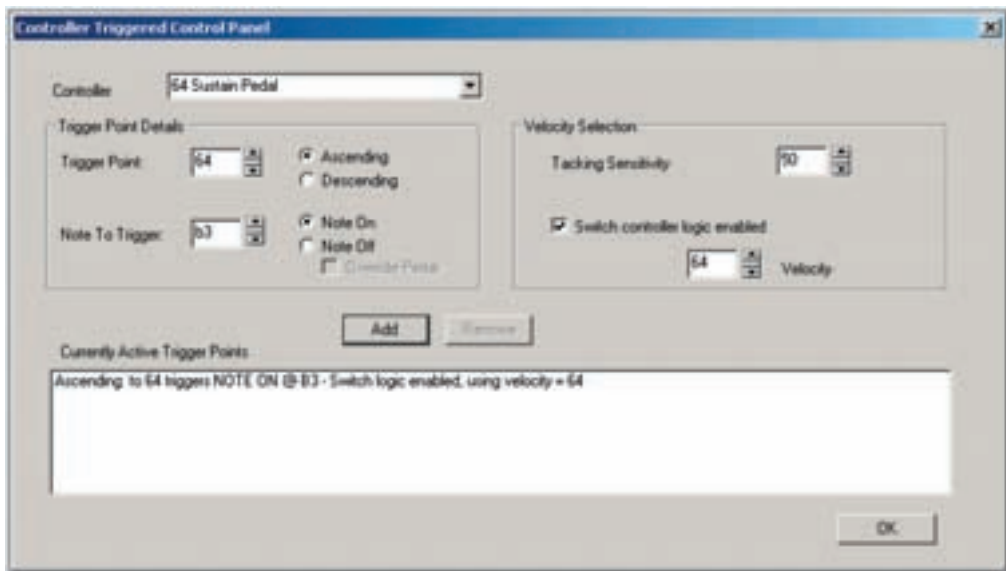
If this option is grayed out, you need to load the instrument by clicking on the [download] button.

19. This will bring up Rules Manager. Select “Controller Triggered” from the list and then click on the [Add] button.



20. That will bring up this Control Panel.

- Set the Controller to “64 Sustain Pedal” This tells the GigaStudio to use the Sustain pedal to trigger a MIDI event.
- Set Note to Trigger to “B3” This tells the GigaStudio to trigger the Foot Closed Hi-Hat region, which is mapped to B-3.
- Click the “Switch controller logic enabled” check box and enter 64 for velocity. This tells the GigaStudio to trigger the sample that is mapped out to the Velocity split that is in the range of 64. (This will be the V2 mf sample)
- Leave everything else the same and click on the [Add] button and then OK.

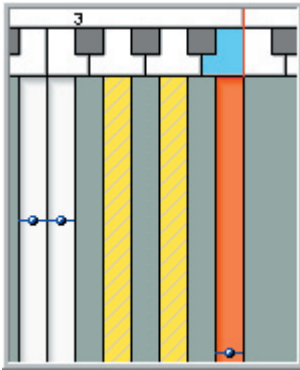


21. Click on [OK] in the Rules Manager window to close it.

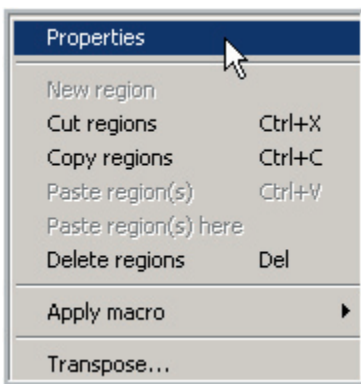
Now, when you step on the Sustain Pedal, it will trigger the mf Foot Closed sample on B-3.

It also continues to switch the Tip and Edge regions between Open and Closed samples at the same time.

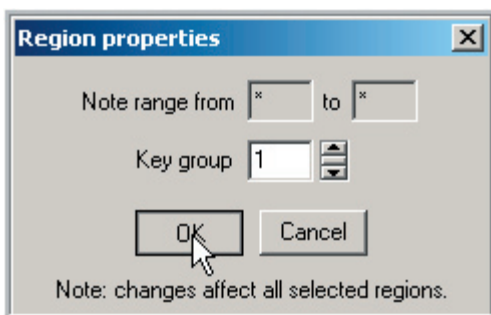
The last step is to assign all the Hi-Hat regions to the same Key-Group so that they will cut each other off. This will cause the Sustain Pedal to choke the open samples, just like the real Hi-Hat.



22. Select all three Hi-Hat Regions and then [Right-Click] with the mouse.



23. Choose “Properties” from the context menu.



24. Set the Key group to “1” and click on [OK].

Make sure the instrument is saved and loaded so you can play it.

25. Now, the Hi-Hat regions will cut each other off. The Sustain Pedal will cut off any open sustaining samples while it triggers the Foot Closed sample. This is very similar to the way the real Hi-Hat operates.

This lesson has touched on nearly every section of the Instrument Editor. Be sure and check out the in depth reference and tutorials on these various features for more information.

The Wizard Tool:

Up to this point, everything has been done manually with the [drag & drop] method.

To better understand this wizard tool, you need to be familiar with the manual method of mapping samples & creating dimensions.

Also, certain instruments like Drum Kits will still need to be created with the [drag & drop] method since each region will usually be different from the other and the Wizard Tool won't work very well for these.

The Wizard Tool works best on melodic instruments like pianos, guitars & orchestral instruments.

You can imagine that if you had to create a full 88 note piano with 8 velocities with sustain pedal switches, that it would take an enormous amount of time to do it manually one note at a time. This is where the Wizard Tool comes in. It allows you to map an entire instrument with multiple dimensions "instantly" Once you have the samples properly named and organized, you are only seconds away from having an instrument mapped out.

Preparing the Samples:

As you edit and organize your samples, you need to also be aware of getting them ready for the Wizard Tool if you plan to use it. This is very simple and will save a lot of time.

Sample Names & Unity Notes:

For the Wizard Tool to work, it needs to know the Unity Note (Also known as Root Note) of each sample. This is the note that the pitch is recorded at and assigned to on the keyboard. Even if the samples are not chromatic, the Wizard Tool can assign them to their root note and then stretch the regions until they meet each other.

The Editor will recognize the unity note of a sample if the sample name indicates the unity note by MIDI note number or by note name. For example, middle C would be note name C-4 or MIDI note number 60.

MIDI Note Name Range: C-1 through G9

MIDI Note Number Range: 0 through 127

Just put the Note Name or Note Number in the Sample Name before importing the samples into the Editor. To keep from confusing the Editor, we recommend putting this name or number at the end of the file name with a space separating it from the rest of the characters.

Example:

Piano Velocity-4 C4.wave

Piano Velocity-4 60.wave

The Editor will have no trouble recognizing files that are named like this.

On the other hand, naming the samples like this might be confusing for the Editor to figure out the unity note.

Piano Velocity-4C4.wave

Piano Velocity-460.wave

Note: The Wizard Tool can also simply map the samples out in alphabetical order as well. This works for sound effects, percussion and other non-melodic instruments.

Organizing by Folders:

The Wizard Tool can also map out complex dimension and velocity splits but to do this, the various splits need to be organized into separate folders.

For example, if we have a piano that is 4 velocities with sustain pedal up & down samples, the folder structure would look like this.

Piano Velocity 1 Pedal Up
Piano Velocity 2 Pedal Up
Piano Velocity 3 Pedal Up
Piano Velocity 4 Pedal Up

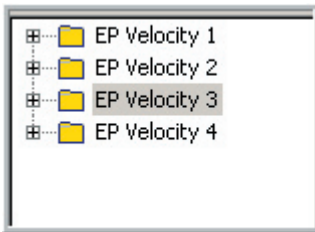
Piano Velocity 1 Pedal Down
Piano Velocity 2 Pedal Down
Piano Velocity 3 Pedal Down
Piano Velocity 4 Pedal Down

In the Wizard Tool, we would be able to assign each of the folders full of properly named samples to the proper dimensions.

Keep in mind that each of these folders could contain up to 88 samples each. That would be 704 samples that would have to be mapped by hand without the Wizard Tool. The Wizard Tool can map these out for you in about a second.

So, as a general rule, there needs to be one folder of properly named samples for every single velocity or dimension split.

Using the Wizard Tool-Simple Mapping:



1. Start with a new instrument and import the 4 Tutorial Electric Piano folders into the Sample Window.

These can be found in the “Editor Tutorial Files” directory for this chapter.

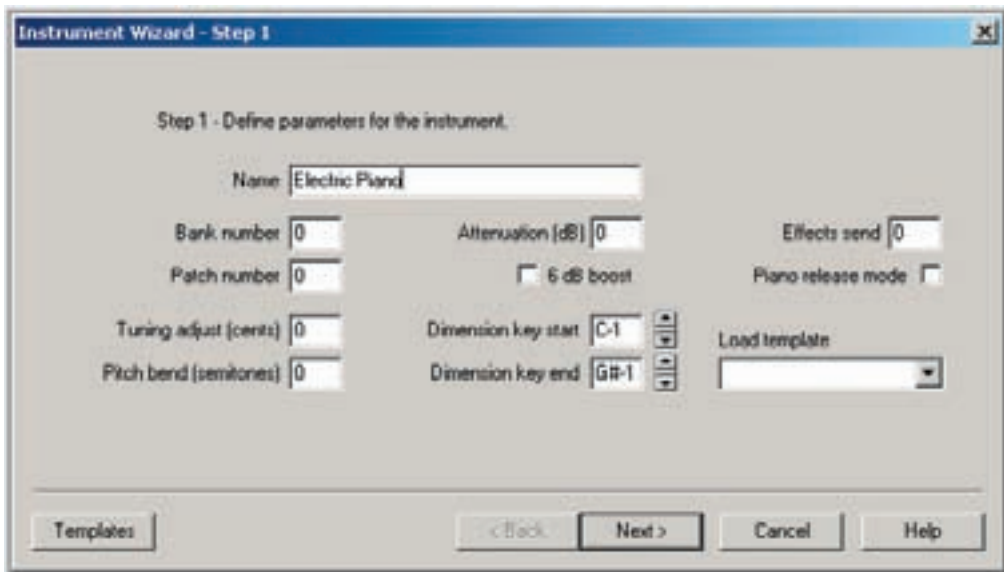
(How To Use the Wizard Tool folder-EP)



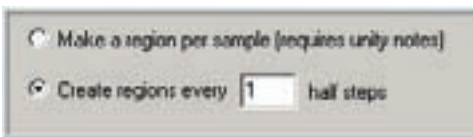
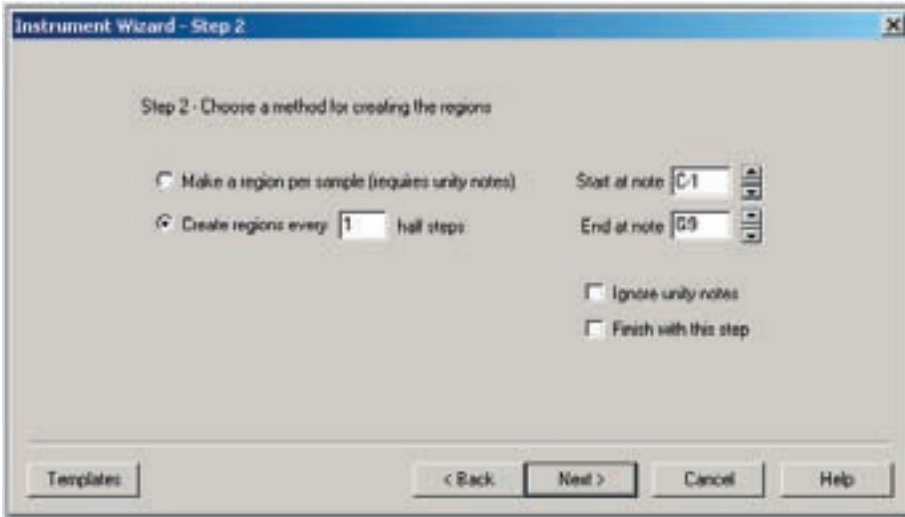
2. Start the Wizard Tool by clicking on the [Wizard Hat] icon on the tool bar.

3. This brings up Page 1 of the Wizard Tool.

- Most of the items in here are identical with the Instrument Properties window.
- This gives you the opportunity to fill in all these details if you wish but you can go back and fill them in later in the Instrument Properties window.
- At the very least, you might want to enter an instrument name.

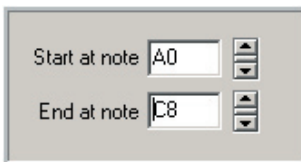


Click the [Next] button to proceed to the next step.



4. Select the checkbox “Create Regions every” and set it to 1 half step. This will create chromatic regions, one for every note on the keyboard.

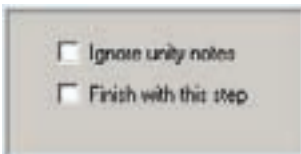
The other option would stretch non-chromatic regions.



5. Set the Start-note to A0.

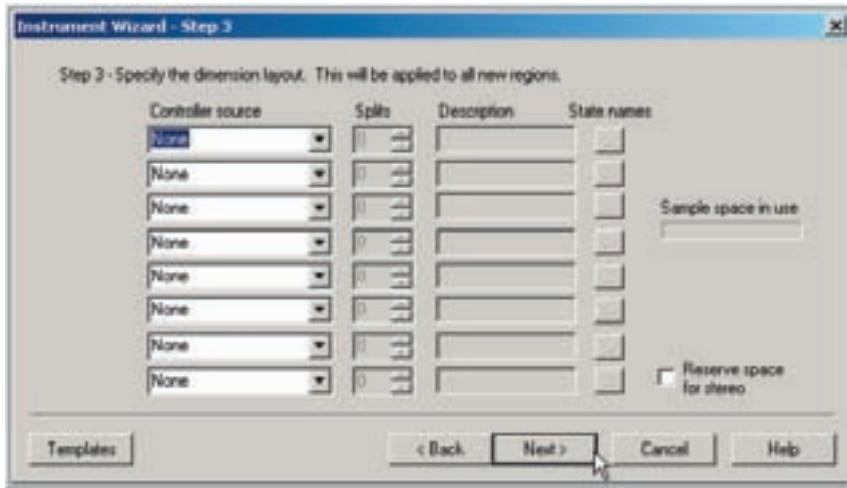
Set the End-note to C8.

This sets the range to cover an 88-note keyboard.

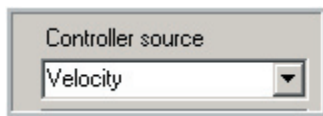


6. Leave these check boxes blank and click the [Next] button to move to the next step.

- “Ignore unity notes” is for non-melodic samples like percussion and sound effects. Checking this box will let the Wizard Tool map the samples alphabetically across the keyboard.
- “Finish with this step” would simply create a bunch of blank regions across the keyboard.



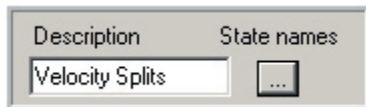
7. Go to the top Controller Source and choose “Velocity”. This will be our velocity split dimension.



8. Set the Splits number to 4. This will create 4 velocity splits, one for each folder of samples.



9. Fill in the Description and the State Names.



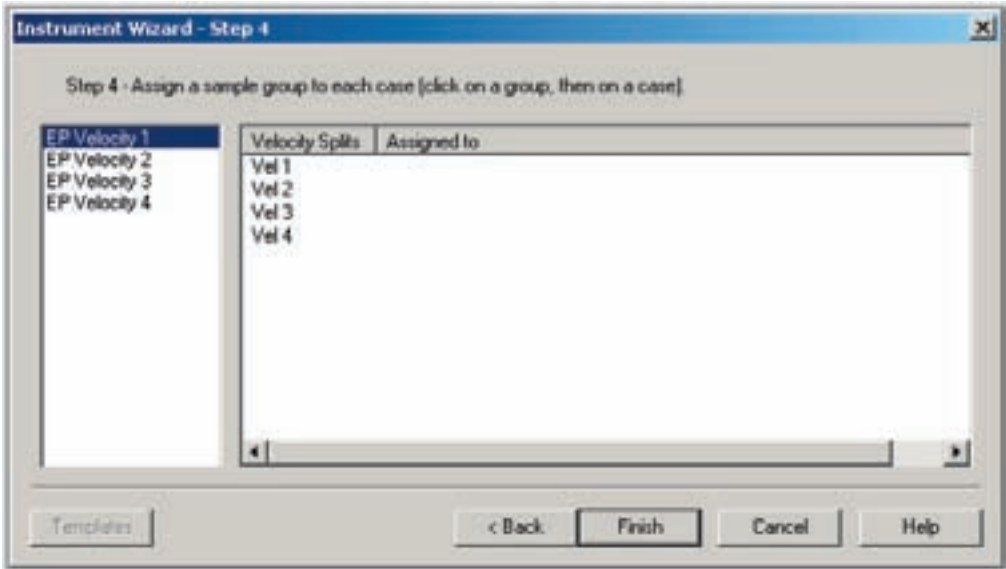
These work the same way as the description and split names when manually creating dimension splits. This is a good habit to get into because these names can really help keep you bearings when dealing with complex instruments. Also, naming is absolutely essential in the last step of the Wizard Tool as things get more complex.\

10. Click on the “Reserve space for stereo” checkbox.



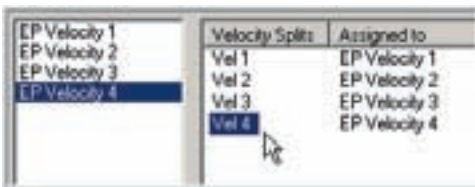
Anytime you are dealing with stereo samples, this box needs to be checked. Leave it blank when using mono samples.

Click on the [Next] Button to move to the last step.



This is the final step of the Wizard Tool. As you can see, the Velocity split state names are in the section on the right. Without the names, they would just be MIDI number ranges, which are much harder to read, especially when we start dealing with more dimensions.

Also notice that the folders of samples are represented in the left section. Mapping the samples out is simply a matter of assigning these folders to the splits in the right section.

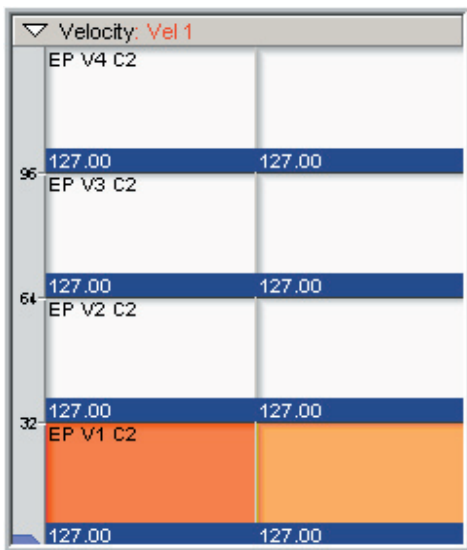
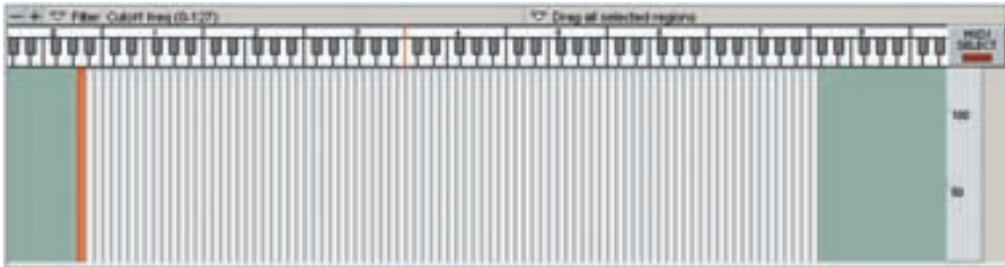


11. Assign the folders on the left (one at a time) to their corresponding velocity split on the right.

To do this, click on a folder and then click on a velocity split name.

Click on the [Next] button to finish the Wizard Tool.

12. The Wizard Tool instantly maps out the whole instrument across the keyboard.



13. Each Region has the 4 Velocity Split points that were represented by the 4 folders of samples.

The samples have the unity note in their name so they are mapped to their unity.

If the samples are not chromatic, they will be pitch stretched up & down until they meet up with the neighboring samples.

If the samples meet on the same note, the higher sample will stretch down.

Doing this by hand would have taken at least an hour or more.

The instrument is now mapped out. Save it and load it to a MIDI channel to hear what it sounds like and start tweaking it.

Chromatic vs. Non-Chromatic mapping:

In this example, we chose to map the notes chromatically even though the samples are not chromatic. (Create Regions every 1 half step option)

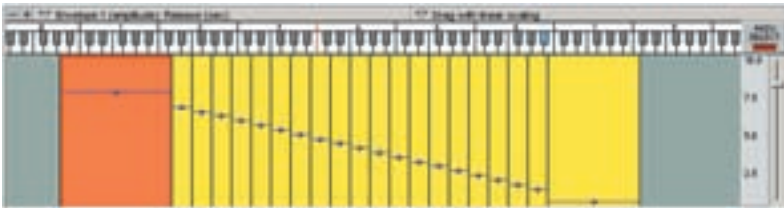
Alternatively we could have created one region per sample to be able to better see where the samples are.



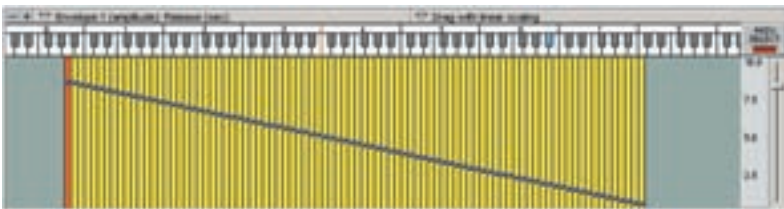
The disadvantage of doing it this way is that it limits the note-by-note fine-tuning that can be done if the samples are mapped chromatically. The results sound the same initially with either method but the ability to make chromatic edits is limited.

Here is an example using the Drag Tools. Lets say we want to have the Release time short at the top and have it gradually get longer going down the keyboard.

With the Non-Chromatic mapping we are limited to one envelope per thick region:



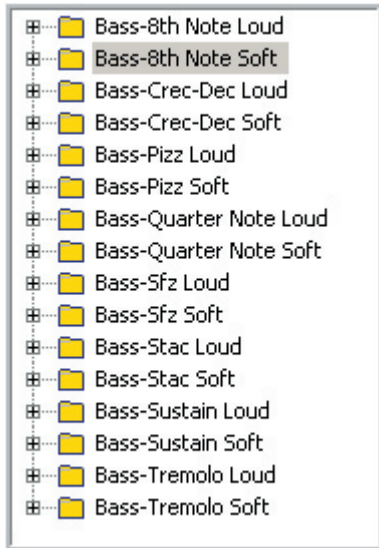
With the Chromatic mapping we get one envelope per note.



This is something to keep in mind as you create instrument. If you don't need the editing resolution, the non-chromatic mapping makes it easier to see where the samples are mapped.

Using the Wizard Tool-Complex Mapping:

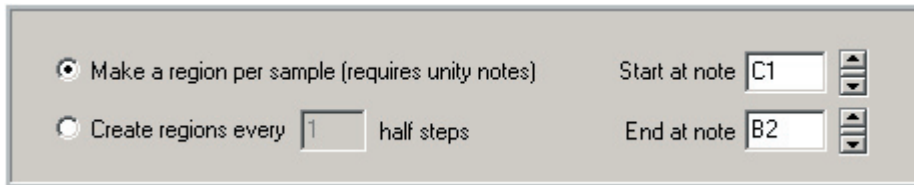
In this example we will use the Bass Ensemble samples to create a complex key-switch instrument with two velocity splits. This will demonstrate the need for good labeling of the descriptions a split names.



1. Start off again with a new .GIG file and import the Tutorial Bass Folders into the Sample Window.

These can be found in the “Editor Tutorial Files” directory for this chapter.
(How To Use the Wizard Tool folder-Bass)

2. Start the Wizard Tool and go to step 2.



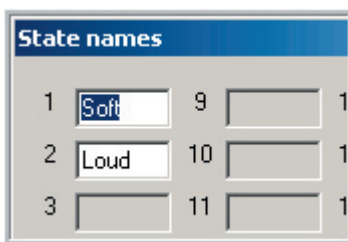
3. This time select the “Make a region per sample” checkbox. This will allow us to see how the samples are mapped & stretched out.

4. Set the Start & End Note to C1 & B2. There are only a few samples included with the bass ensemble tutorial samples so this is a good range that will also stretch the top and bottom notes a bit.

Move on to step 3 in the Wizard Tool.

5. Set the first controller to Velocity and give it 2 splits. Name it “Velocity Splits” in the Description field.

6. Set the second controller to “Keyboard” and give it 8 splits. Name it “Key-Switch” in the Description field.



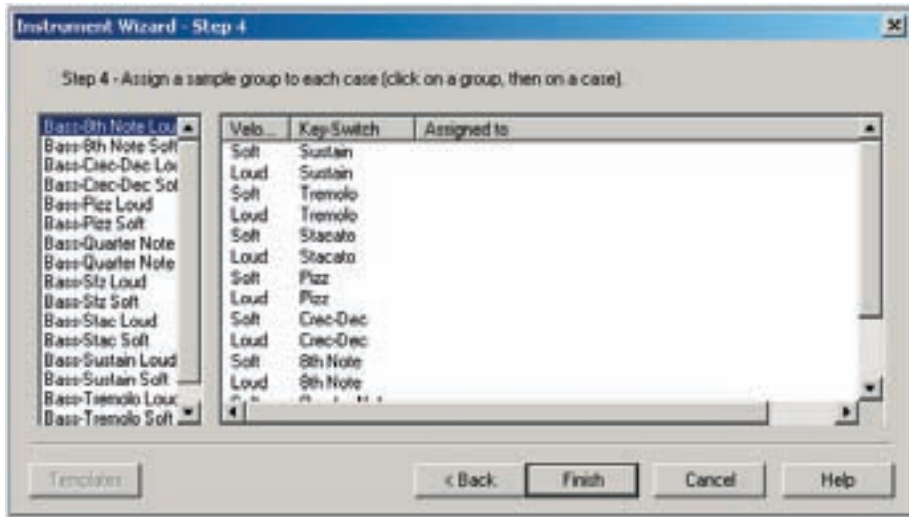
7. Click on the [Velocity State names] button and name the splits as shown.

Click the [OK] button when finished.

8. Click on the [Keyboard State names] button and name the splits as shown. These are named for each type of articulation. Click the [OK] button when finished.



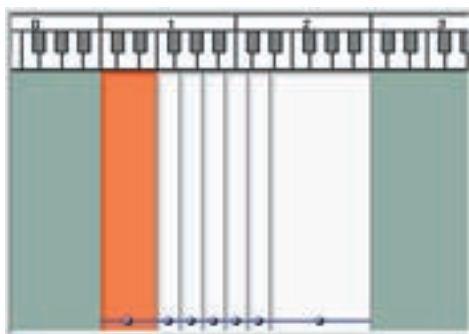
Move on to last step 4 in the Wizard Tool.



Here is where the naming comes in real handy. This would just be a matrix of numbers otherwise.

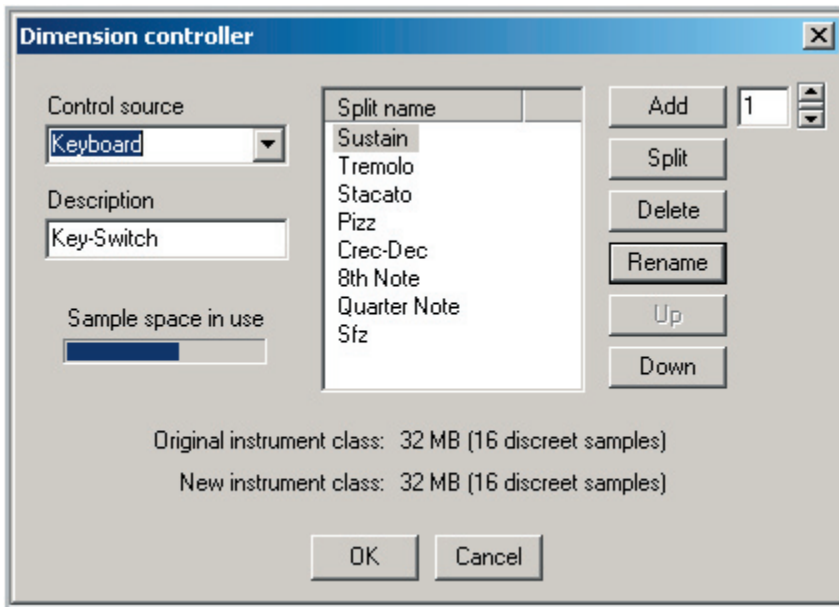
Velo	Key-Switch	Assigned to
Soft	Sustain	Bass-Sustain Soft
Loud	Sustain	Bass-Sustain Loud
Soft	Tremolo	Bass-Tremolo Soft
Loud	Tremolo	Bass-Tremolo Loud
Soft	Stacato	Bass-Stac Soft
Loud	Stacato	Bass-Stac Loud
Soft	Pizz	Bass-Pizz Soft
Loud	Pizz	Bass-Pizz Loud
Soft	Crc-Dec	Bass-8th Note Soft
Loud	Crc-Dec	Bass-Crc-Dec Loud
Soft	8th Note	Bass-8th Note Soft
Loud	8th Note	Bass-8th Note Loud

9. Map the folders on the left to the splits on the right. Match the folder names to the split names.



10. The Wizard Tool maps the regions across the keyboard.

11. The Dimension Control window shows the Key-Switch splits and the descriptive names that were entered in the Wizard Tool.



12. The Dimension display also shows the descriptive names of the dimension and the individual splits.



The instrument is now mapped out. Save it and load it to a MIDI channel to hear what it sounds like and start tweaking it.

Complex Mapping Example:

Here is a brief example of some fairly complex mapping in the Wizard Tool.

In step 3 of the Wizard Tool, we have 4 dimensions. (5 including Stereo)

- 2 Velocity Splits
- 4-Way Keyboard Split that changes between 4 articulations.
- 2-Way Layer that adds the Tremolo samples.
- 2-Way Sustain Pedal switch that changes to the Staccato samples.
- Stereo

The Descriptions and State Names are meticulously labeled.

Controller source	Splits	Description	State names
Velocity	2	Velocity	...
Keyboard	4	Articulations	...
Layer	2	Tremolo Layer	...
(64) Sustain pedal	2	Staccato Pedal	...

Here is the final Step showing all the articulations and names.

	Velocity	Articulations	Tremolo	Staccato P.	Assigned to
Bass-8th Note Lou	Soft	Sustain	Normal	Pedal Up	Bass-Sustain Soft
Bass-8th Note Soft	Loud	Sustain	Normal	Pedal Up	Bass-Sustain Loud
Bass-Cleo-Dec Lou	Soft	8th Note	Normal	Pedal Up	Bass-8th Note Soft
Bass-Cleo-Dec Sol	Loud	8th Note	Normal	Pedal Up	Bass-8th Note Loud
Bass-Pizz Loud	Soft	Q Note	Normal	Pedal Up	Bass-Quarter Note Soft
Bass-Pizz Soft	Loud	Q Note	Normal	Pedal Up	Bass-Quarter Note Loud
Bass-Quarter Note	Soft	Pizz	Normal	Pedal Up	Bass-Pizz Soft
Bass-Quarter Note	Loud	Pizz	Normal	Pedal Up	Bass-Pizz Loud
Bass-5/12 Loud	Soft	Sustain	Tremolo	Pedal Up	Bass-Tremolo Soft
Bass-5/12 Soft	Loud	Sustain	Tremolo	Pedal Up	Bass-Tremolo Loud
Bass-Stacc Loud	Soft	8th Note	Tremolo	Pedal Up	Bass-Tremolo Soft
Bass-Stacc Soft	Loud	8th Note	Tremolo	Pedal Up	Bass-Tremolo Loud
Bass-Sustain Loud					
Bass-Sustain Soft					
Bass-Tremolo Loud					
Bass-Tremolo Soft					

Vel	Kybd	Layr	Sust	Assigned to
0-63	0-31	0-63	0-63	
64-127	0-31	0-63	0-63	
0-63	32-63	0-63	0-63	
64-127	32-63	0-63	0-63	
0-63	64-95	0-63	0-63	
64-127	64-95	0-63	0-63	
0-63	96-127	0-63	0-63	
64-127	96-127	0-63	0-63	
0-63	0-31	64-127	0-63	
64-127	0-31	64-127	0-63	
0-63	32-63	64-127	0-63	
64-127	32-63	64-127	0-63	
0-63	64-95	64-127	0-63	
64-127	64-95	64-127	0-63	

Here is what you would see if you don't enter descriptions and state names.

It would be virtually impossible to figure out what goes where in this matrix of numbers.

Here are the dimensions of the finished instrument.

The screenshot shows a software interface with several sections:

- Kybd: Articulations: Pizz**: A 4-column grid with headers 'Sustain', '8th Note', 'Q-Note', and 'Pizz'. The 'Pizz' column is highlighted in orange. Below the grid are markers for 1, 2, 3, and 4.
- Layr: Tremolo Layer: Tremolo**: A 2-column grid with headers 'Normal' and 'Tremolo'. The 'Tremolo' column is highlighted in orange. Below the grid are markers for 1 and 2.
- Sust: Staccato Pedal: Staccato**: A 3-column grid with headers 'Pedal Up', 'Staccato', and 'Staccato'. The two 'Staccato' columns are highlighted in orange. Below the grid are markers for 32, 64, and 96.
- Click to assign**: A section with a green background and markers for 32, 64, and 96.

This will allow a 4-way key-switch between Sustain/8th Note/Quarter Note/Pizz

The Layer could have the Mod-Wheel fade the Tremolo layer in.

The Sustain Pedal would switch to staccato samples.

This is just quick hint of the complexity and creativity available when using the Wizard Tool.

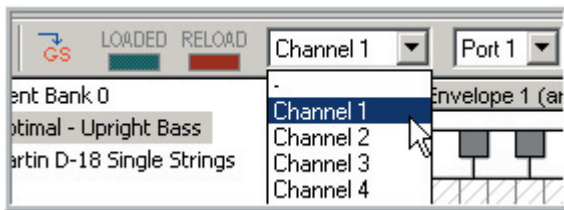
Load Status Lights:



The load status of an instrument is very important when you are editing instruments. You can play the instrument while you edit and hear most of the changes in real-time as long as the instrument is loaded to a MIDI port and channel and the load status light is green.

Loading Instruments to MIDI channels:

1. Choose port & MIDI channel.



2. Click on the [Download] button.



3. Make sure keyboard is sending to that channel and connected to the port.

4. The entire gig file will load to the MIDI channel. You know it's loaded properly because the "Loaded" light is green and the "Reload" light is off.



5. If there are more multiple instruments in the .GIG file, select the one you want to hear and play it. This is like making a patch change and happens instantly.



Load Indicator Lights:



Grey: The .GIG file is not loaded. You need to click the [Download] button to load it to the selected MIDI channel.



Green: The .GIG file is loaded. Continue editing until this light turns yellow or red.

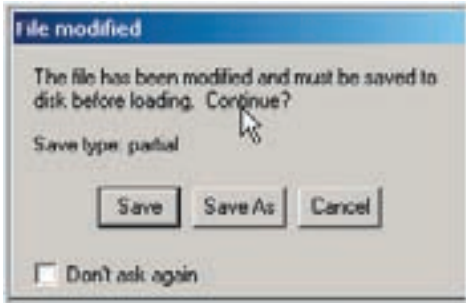


Yellow: The changes that have been made to the instrument require quick save.

You will still hear the instrument but the recent changes will not be heard until you save the instrument. These are minor changes to the instrument such as moving or stretching note regions.

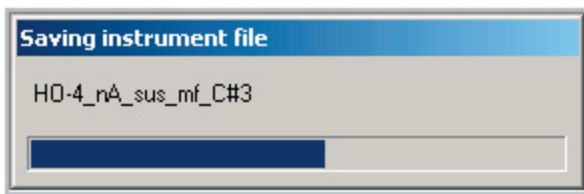


Do do a quick save, click on the [Download] button.



This will bring up the “File modified” window. For the quick save, click on the [Save] button.

This will save the changes that were made without having to save the entire .GIG file to disk.



However, if you choose [Save As] this will save the whole .GIG file to disk using a different file name.



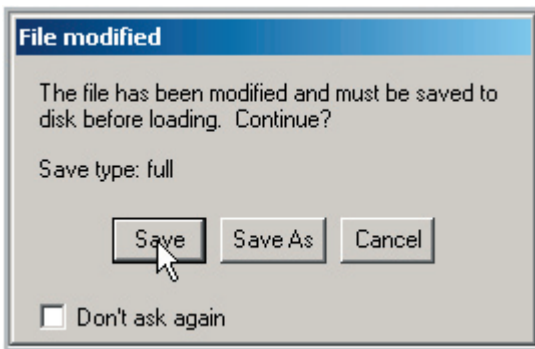
Red: The changes made require a complete resaving of the entire .GIG file.

These are major changes that alter the structure of the .GIG file.

- Adding, removing, reordering or changing dimension and velocity splits.
- Adding, deleting or replacing samples.
- Adding, deleting or importing new instruments.
- Moving instruments between banks or adding & deleting banks.



To do a full save, click on the [Download] button.



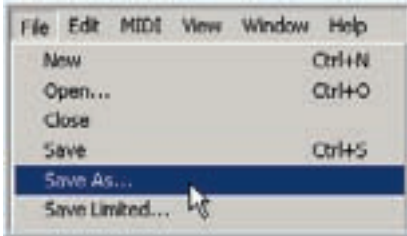
This time, if you choose the [Save] button, the entire .GIG file will be resaved.

This will write the whole file to the temp directory and then overwrite the original file.

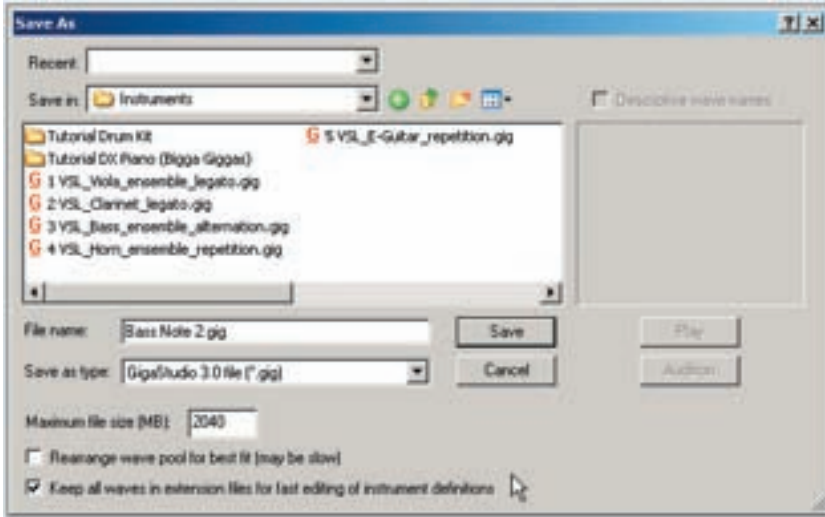
A faster way to work is to choose [Save As] instead and save as a new file. You can then delete the original .GIG file if you like. This avoids the extra step of copying the whole file to the temp directory. It also keeps a backup of the original .GIG file.

Separating Parameters from .GIG file:

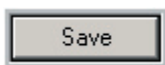
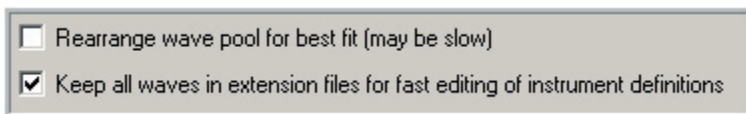
As you can see, doing a complete full save can be time consuming if you are dealing with large .GIG files. This problem has been solved with the ability to separate the instrument parameters from the samples.



1. Go to the File menu and choose [Save As...]



2. In the new GigaStudio Browser screen, look in the lower left for this check box. “Keep all waves in extension files for fast editing of instrument definitions”



3. Check that box and then [Save] the file.

4. This will create two files, a .GIG file (which contains the parameters) and an Extension file (which contains the samples)



 Giga Piano Edit.gig	968 KB	GigaStudio Instrument File
 Giga Piano Edit.gx01	661,787 KB	GX01 File

5. From here on out, you can make major changes to the file in the Instrument Editor and you will no longer have to wait for the complete .GIG file to save every time.

Things to keep in mind:

- This file will load just fine in the main GigaStudio Interface but you need to make sure that both files are together on the hard drive, or this will not work.
- If you want to simplify things, you can re-save this split file again when you're done editing. Save it again but with the checkbox "un-checked" and it will merge them back together into a single .GIG file that contains the parameters and the samples as before. This is something that library developers might want to do to keep everything together and make for a cleaner release.
- This is most useful for large .GIG files. It's probably not worth the effort for smaller files, which would reload fairly quickly.

Instrument Editor Menus:



Editor Menu Details:

There are some things to keep in mind with the Editor menus.

Edit Menu Changes:

Some parts of the Edit Menu will change depending on what has been selected in the Editor. **(Mainly the Cut-Copy-Paste-Delete-Rename commands)**

Cut bank	Ctrl+X
Copy bank	Ctrl+C
Paste	Ctrl+V
Delete bank	Del
Rename	

These commands will change what they refer to when ever you change the type of item that is selected.

Cut instrument	Ctrl+X
Copy instrument	Ctrl+C
Paste	Ctrl+V
Delete instrument	Del
Rename	

If you have highlighted an instrument, then these 5 commands will refer to “Instruments”

Cut region	Ctrl+X
Copy region	Ctrl+C
Paste region(s)	Ctrl+V
Delete region	Del
Rename	

If you have highlighted a Region, then these will refer to “Regions” instead and so on for Banks-Instruments-Regions-Folders-Samples.

Menu Key Commands:

Every Menu item has a Keyboard Shortcut. These are shown as each item is described but you can figure them out by simply looking at the Underlined letters in the Menu Titles.

Most of the Keyboard Shortcuts start with the [Alt] Key followed by a letter.

For example [Alt] + [F] will open up the File Menu.

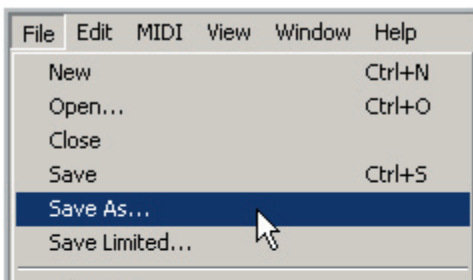
[Alt] Key followed by [F] Notice that the word “File” on the menu has the F underlined.

[Alt] + [F] + [S] will Save the file.

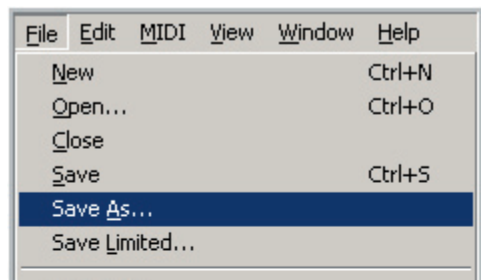
[Alt] followed by the letter [F] again which brings up the File Menu, then followed by the letter [S] which brings up the Save feature. Notice again how the word Save has the S underlined indicating that S is the keyboard shortcut.

The underlined letters inside the dropdown menus will only be underlined when you use a key command. If you use the mouse, then the letters inside the dropdowns menus will not be underlined.

Menu Opened with the [Mouse]



Menu Opened with the [Keyboard]



By observing the underlined letters, you can navigate the entire menu with keyboard shortcuts without having to refer to the manual.

Some standard keyboard shortcuts use the Ctrl key as well. These are also displayed in the menus.

File Menu: [Alt] + [F]

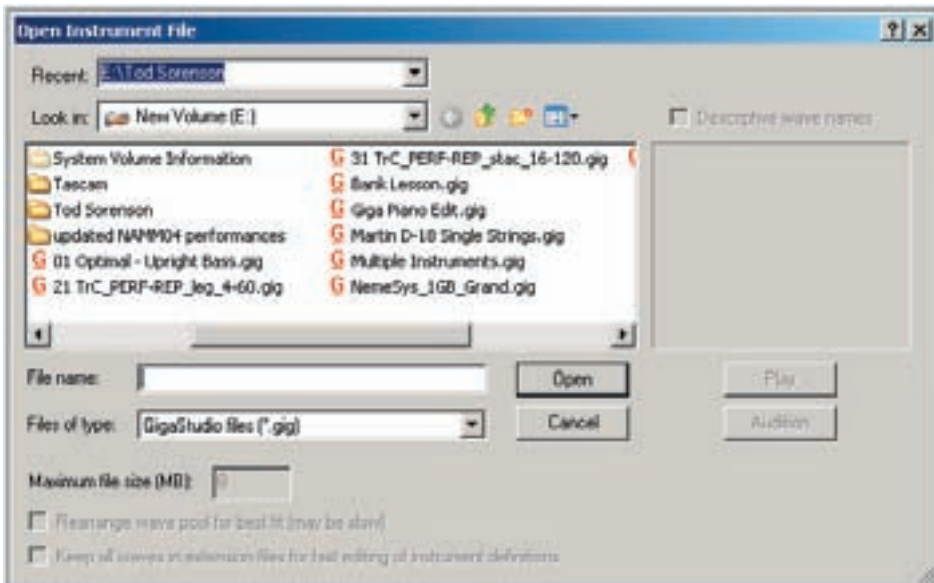


New: [Alt] + [F] + [N] or [Ctrl] + [N]

This creates a new and empty .GIG file.

Open... [Alt] + [F] + [O] or [Ctrl] + [O]

Use this to find and open a .GIG file. This will bring up the file browser screen below. This is a slightly customized version of the typical Windows file browser window. See chapter “o8-o2 How To Open a GIG File” for more details.



Save: [Alt] + [F] + [S] or [Ctrl] + [S]

Save the currently loaded .GIG file.

- If the file is new and has never been saved before, you will get the “Save As” screen where you can name the file and select where you want it to go on your computer.
- If the file has been saved before, it will automatically save over the existing file.
- If the existing .GIG file is tagged as a “Read Only” file, you will get a message asking if you would like this removed before saving over it.

Save As... [Alt] + [F] + [A]

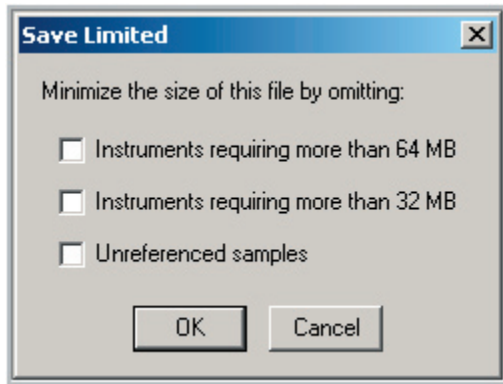
Save the currently selected .GIG file to a new file.

This is the option to use on a file that already exists on the hard drive that you don't want to save over.

The “Save As” screen will come up so that you can choose the location and name of the file you are saving.

Save Limited: [Alt] + [F] + [L]

This is a specialized save option that gives you three choices.



Instruments requiring more than 64 MB:

This will only save instruments from the .GIG file that do not need more than 64 MB of RAM buffering and will omit any instruments that need more.

Instruments requiring more than 32 MB:

This will only save instruments from the .GIG file that do not need more than 32 MB of RAM buffering and will omit any instruments that need more.

Un-referenced Samples:

This option will keep the Editor from saving any samples that are not being used in any of the instruments in the .GIG file. This is much faster than having to manually hunt through a potentially long list of samples & folders of samples, trying to figure out which ones are not being used and deleting them.

Merge File...[Alt] + [F] + [M]

This option allows you to merge other .GIG files with the one you are working on.



It will bring up a browsing window that works just like the “Open New Instrument” window described earlier.

You can then hunt for the .GIG file/s you want to merge.

Select the files and hit the open button



The instruments in the selected .GIG files will be imported into the current .GIG file.



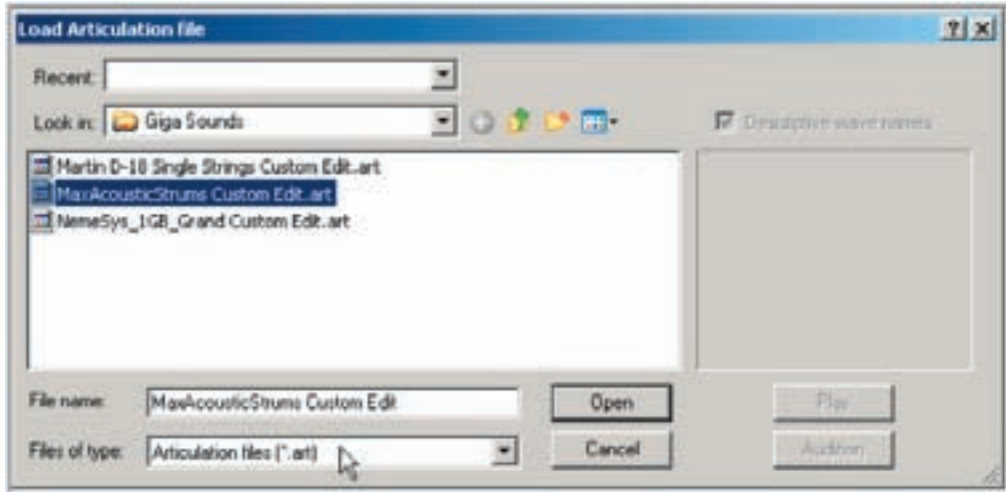
The instruments will be added to the “Instrument & Bank” window and the samples will be added to the “Sample Pool”

Note on Merged Waves:

If the Editor determines that there are identical samples after merging or copying & pasting instruments, it will not re-import those particular samples. This avoids redundant samples and the hard disk and RAM buffering resources that would get used up otherwise.

Load Articulation...[Alt] + [F] + [R]

This is where you apply and Articulation (.ART) file to the current .GIG file.



This screen is also very similar to the other browse windows but it is filtered to only search for .ART file. Just search for the .ART file you want to use and hit the “Open” button and it will apply all the mappings and parameters of the Articulation file to the current .GIG file.

An Articulation File is a tiny file that contains all the mappings & parameters of an instrument, separate from the large samples. This allows people to update instruments without having to send entire .GIG files with all the samples. This file is small enough to upload or email so that you can share your changes with other people that have the same original .GIG file. This is great for sharing various edits and tweaks, official library updates and is especially helpful for long distance collaboration on a library.

Save Articulation...[Alt] + [F] + [T]

- This is how you create your own Articulation file.
- Once you have a .GIG file edited and tweaked, you can save all the parameters and sample mappings to an .ART file here.
- Choose where you want to save the file and give it a name and hit the “Save” button.

Recent Files: [Alt] + [F] + [Up & Down Arrows]

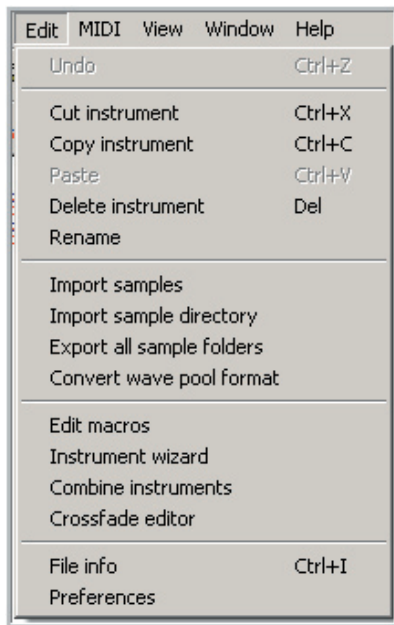
- The last 4 .GIG files that have been loaded into the Editor are listed here.
- You can quickly load them by selecting them here instead of having to hunt for them in the “Open” browse window.

Exit: [Alt] + [F] + [X]

- This will shut down the Editor.
- You can also close the editor by clicking the X in the top right corner as with any Windows program.



Edit Menu [Alt] + [E]

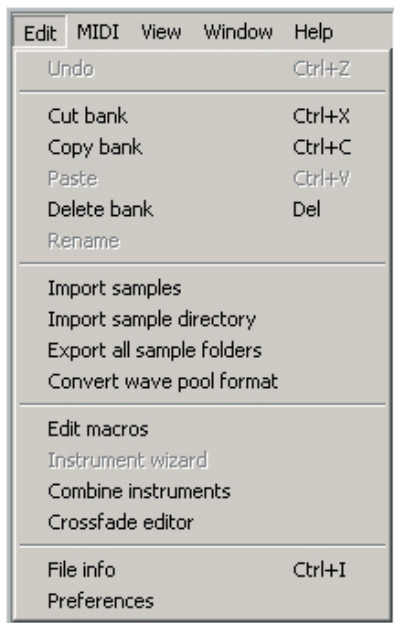


The Edit Menu is where you will find the various editing commands.

Many of these commands can be accessed with the computer keyboard.

These keyboard commands match the standard Windows keyboard shortcuts for the most part.

The display of the edit menu will change depending on which area of the Instrument Editor is highlighted to reflect what kind of objects are to be edited. The section with the cut, copy, paste, delete & rename will change. The rest of the menu stays the same.



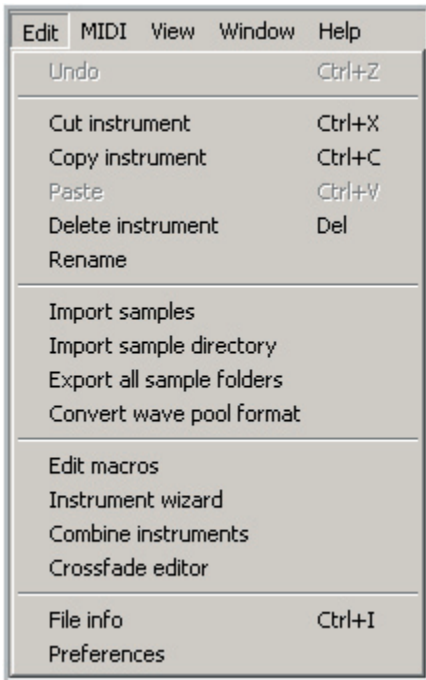
Edit Menu for “Banks”



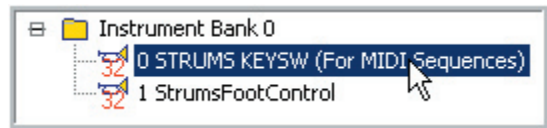
This is what the Edit Menu looks like when an instrument bank is highlighted in the Editor.

This means you can cut, copy, paste, delete and rename entire Instrument Banks.

The rest of the Edit Menu stays the same.



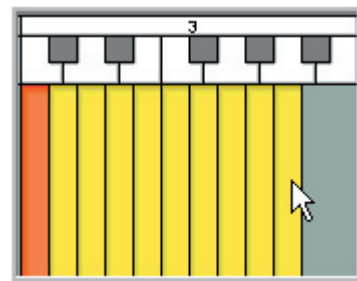
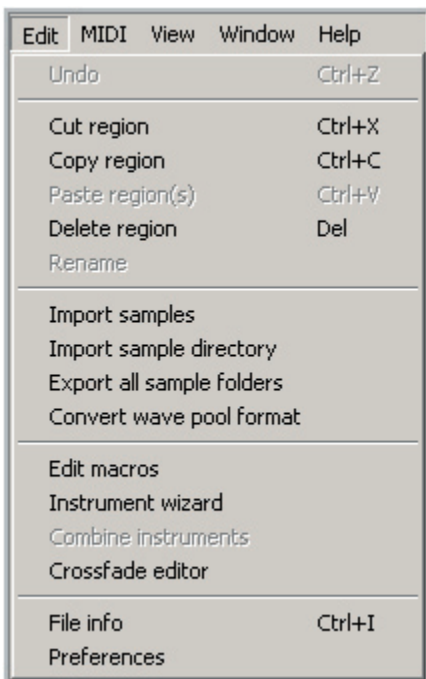
Edit Menu for “Instruments”



This is what the Edit Menu looks like when an instrument is highlighted in the Editor.

This means you can cut, copy, paste, delete and rename entire Instruments.

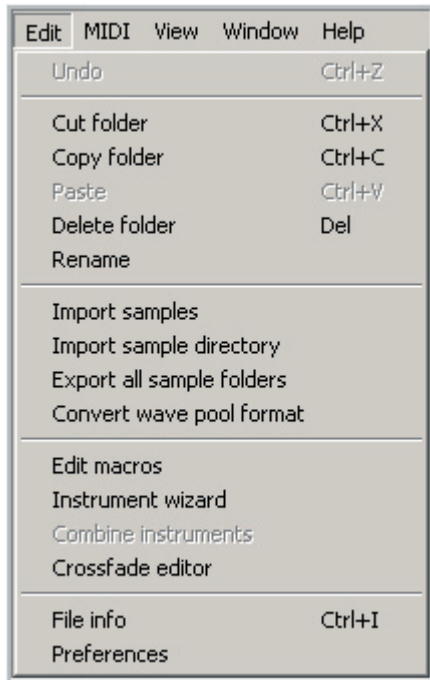
The rest of the Edit Menu stays the same.



This is what the Edit Menu looks like when a Region is highlighted in the Editor.

This means you can cut, copy, paste, delete and rename entire Regions.

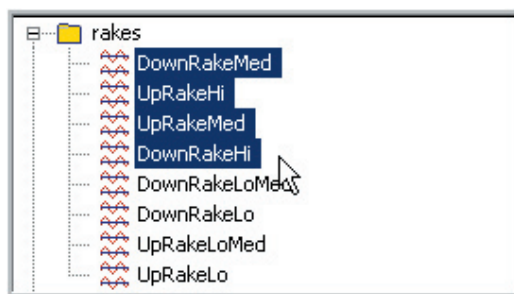
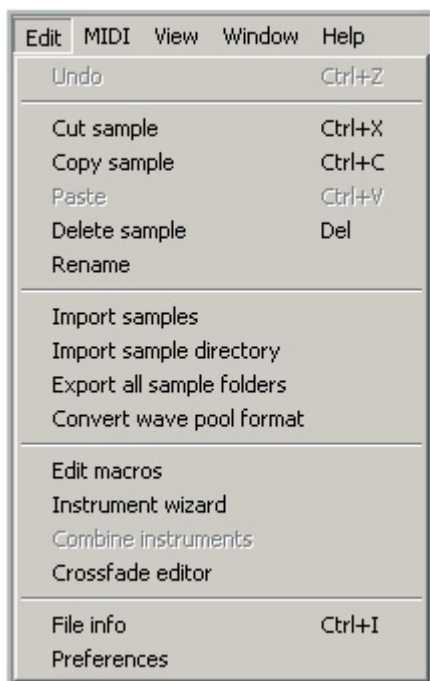
The rest of the Edit Menu stays the same.



This is what the Edit Menu looks like when a Folder is highlighted in the Editor.

This means you can cut, copy, paste, delete and rename entire Folders.

The rest of the Edit Menu stays the same.



This is what the Edit Menu looks like when a Sample or group of Samples is highlighted in the Editor.

This means you can cut, copy, paste, delete and rename entire Samples.

The rest of the Edit Menu stays the same.

To make an edit, select an item with the mouse and go to the menu with the mouse or with a keyboard shortcut and choose the edit command you want to use.

There are also various short cut keyboard combinations you can use.

- [Ctrl] + [X] to Cut
- [Ctrl] + [C] to Copy
- [Ctrl] + [V] to Paste
- [Delete Key] to Delete

Many of these options are also available by “Right Clicking” on the item instead of going up to the menu.

Undo: [Ctrl] + [Z] or [Alt] + [E] + [U]

- This will undo your most recent edit.
- Selecting this again will “Redo” the edit that was “Undone”.
- You can toggle back and forth between “Undo” and “Redo” using the mouse or Ctrl+Z.
- [Alt]+E+U will only work for the “Undo” but will not toggle the “Redo”

Cut: [Ctrl] + [X] or [Alt] + [E] + [C]

- This Cut command will “Delete” the selected item and put it into the clipboard so that it can be pasted later to another location.
- You can paste to a variety of locations including different areas within the current .GIG file or to other .GIG files that are opened in the Editor.
- You can also Right-Click with the mouse over an item to bring up the Cut command without having to go to the Edit menu.

Copy: [Ctrl] + [V] or [Alt] + [E] + [C] + [C]

- The Copy command will “Copy” the selected item without deleting it and put it into the clipboard so that it can be pasted later to another location.
- You can paste to a variety of locations including different areas within the current .GIG file or to other .GIG files that are opened in the Editor.
- As with the other basic edit commands, you can also Right-Click with the mouse over an item to bring up the Copy command without having to go to the Edit Menu.

Paste: [Ctrl] + [V] or [Alt] + [E] + [P]

- Once you Cut or Copy and item, this command will Paste it where you instruct it to.
- There are a variety of ways to paste depending on the item you are working with. For example, regions can be pasted to the same key range or you can specify where to paste them . This will all be covered in detail in each area of the Editor.
- As with the other edit commands, you can right click with the mouse over an item to bring up the Paste command without having to go to the Edit Menu.

Delete: [Delete] Key or [Alt] + [E] + [D]

The Delete command will delete the item you have selected. You will get a prompt asking if you really want to delete the item. Choose [Yes] to delete it or [No] if you change your mind.

Rename: [Alt] + [E] + [N]

- This is one of a couple of ways that you can rename a Bank, Instrument, Folder or Sample.
- Select the item you want to rename and choose “Rename” from the edit menu. This will highlight the name of the item and you can then change the name.
- Another method is to click on the item once with the mouse to highlight it. Then click it a second time to put the name in edit mode. (Two slow clicks, not a fast double-click)

Import samples: [Alt] + [E] + [S]

This is one of several ways to import samples into a .GIG file.

- Select a folder in the Wave Pool where you want the imported samples to go and then choose “Import samples”.
- Use the browsing window that comes up to navigate to the wave files you want to import.
- Select the waves and click on the open button. They will show up in the folder you selected in the wave pool.

You can also right-click on a folder in the Wave Pool and choose to import samples or directories from there as well.

Alternatively you can simply drag & drop wave files or folders full of wave files directly from the Windows desktop into the Wave Pool area of the Editor.

Import sample directory: [Alt] + [E] + [Y]

This works very similar to the “Import samples” command but you choose a folder full of wave files instead. The navigation-browsing window is slightly different looking as well.

Remember, just like with the waves, you can drag & drop folders full of wave files directly from the Windows desktop into the Wave Pool area of the Editor. Using this method, you can import more than one directory at once.

You can also right-click anywhere in the Wave Pool and choose “Import directory” from there as well.

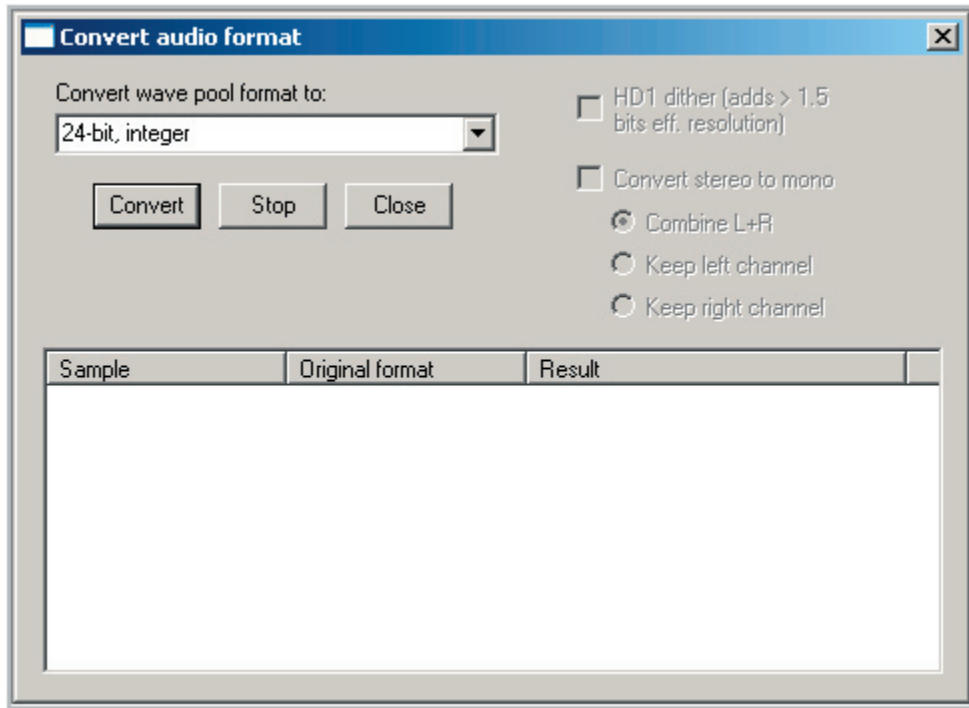
Export all sample folders: [Alt] + [E] + [A]

This will export all the samples in a .GIG file to standard wave files on your hard drive. These wave files will also include any existing loop points in them. This is handy if you need to do audio editing to a bunch of the samples in an instrument. You can later use the “Replace All” option to batch replace the samples back into a .GIG file.

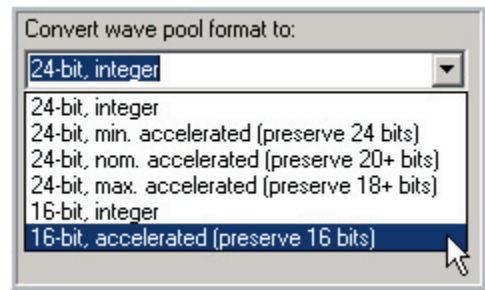
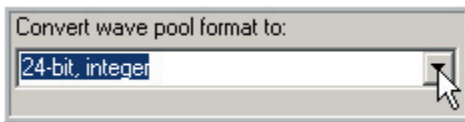
You should first create an empty folder on the hard drive where you want these samples to go. Then choose this command and browse to the folder you created and click on the OK button to export them. The folders and samples will be named and organized the same way they are in the Wave Pool.

Convert wave pool format: [Alt] + [E] + [F]

This is a handy new feature that allows you to batch convert ALL the samples in a .GIG file to various bit rates, compression settings and channel conversion settings.



Convert wave pool format to:



This drop box displays the various bit rate and compression (disk acceleration) options you can choose.

24-bit, integer:

Uncompressed full size 24 bit waves. This will of course get less polyphony than 16 bit samples.

24-bit, min. accelerated (preserve 24 bits):

Disk acceleration compression with no loss of quality. This improves the polyphony and reduces the file size significantly. The polyphony is similar to uncompressed 16 bit samples with no loss of quality.

24-bit, nom. accelerated (preserve 20+ bits):

More disk acceleration compression with 20-bit quality. This offers even more polyphony with a very slight quality loss.

24-bit, max. accelerated (preserve 18+ bits):

More disk acceleration compression with 18-bit quality. This offers even more polyphony with a very slight quality loss.

16-bit, integer:

Standard uncompressed 16 bit samples.

16-bit, accelerated (preserve 16 bits):

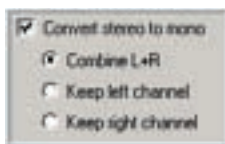
Disk acceleration compression with no loss of quality. This improves the polyphony and reduces the file size significantly.

HD1 dither (adds 1.5 bits eff. resolution)



In most cases, this box should be checked whenever you are converting from 24-bit to 16 bit samples. In the rare case that dither noise has been added to 24-bit samples before importing them into the GigaStudio, you can uncheck this box.

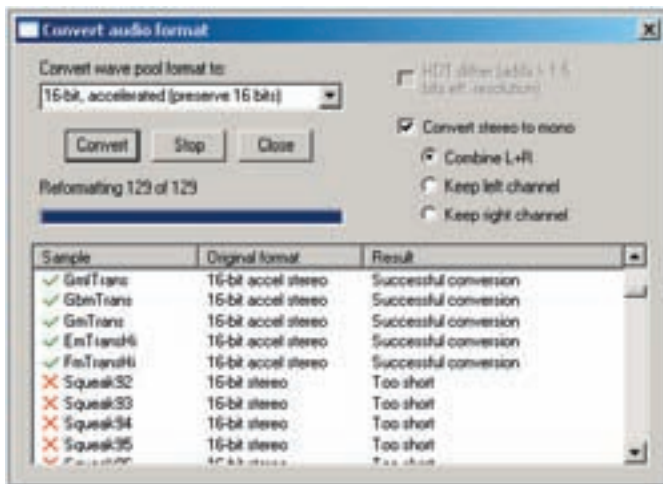
Convert stereo to mono



At last there is a way to convert all the samples of a .GIG file from Stereo to Mono. The .GIG file will adjust the stereo dimension to Mono to accommodate this. You get the choice of combining the left and right channels or picking one or the other.

Conversion Display Window.

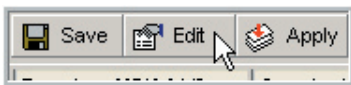
The Conversion Display window shows the progress of the conversion. It shows which samples have been converted and it shows whether the conversion was feasible or not. Samples that are too short to start with will not benefit from the Disk Acceleration Compression for example.



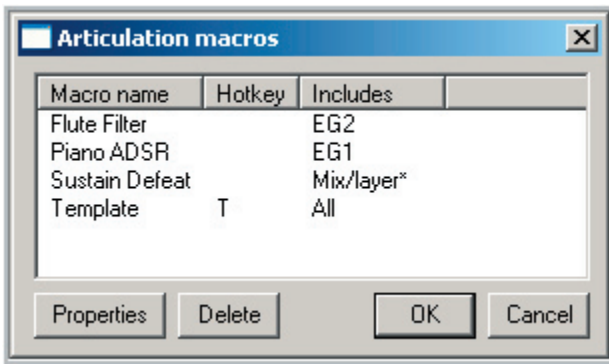
Edit macros: [Alt] + [E] + [M]



You can open the Macro Editor from the Edit menu.



You can also open it with the Macro Edit button at the bottom of the Editor.

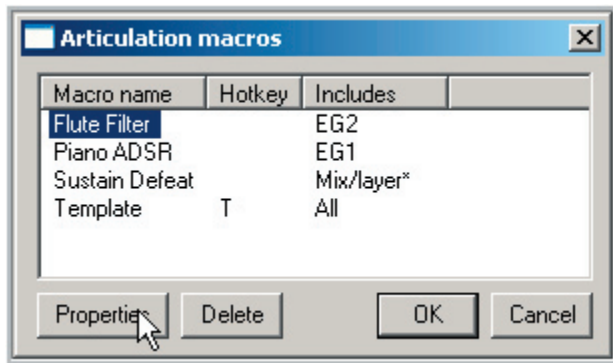


This brings up the Macro Edit Screen.

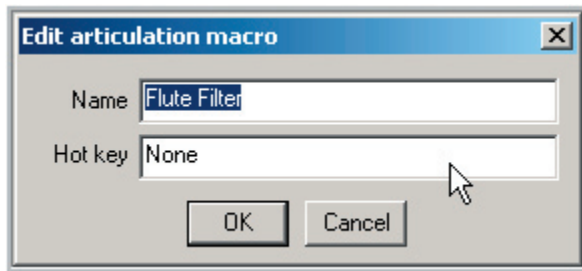
This is where you can edit the Name and the Hotkey of any created Macros. You can also Delete them here as well.

A Macro allows you to save commonly used parameter edits to be reused later. For instance, if you spend some time tweaking the perfect filter setting, you can save it as a macro and instantly apply it to any region of any instrument in the future without having to completely redo it from scratch. Macros are covered in the reference Chapter “09-09 Macros”

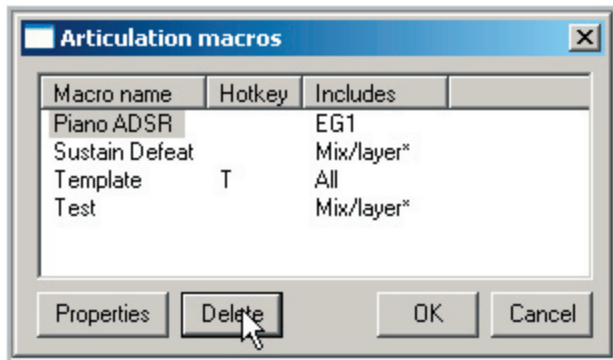
Editing Macros:



To edit a macro, double click on the macro name or select the macro and click on the “Properties” button.



This will bring up a window where the name and hotkey can be edited.



To delete a macro, click on the macro name and then click on the “Delete” button.

In this example, the Flute Filter Macro has been deleted.

Instrument wizard: [Alt] + [E] + [W]

This command brings up the famous and all-powerful Wizard Tool.



It can also be launched with the Wizard Icon on the Tool Bar.

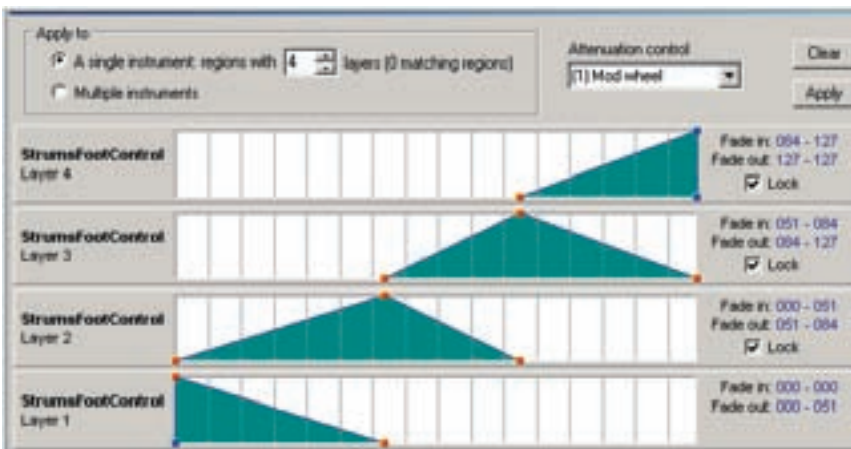
The wizard tool helps you to automatically map samples across the keyboard, across multiple velocities and dimensions in a matter of seconds. It is covered in detail in the Wizard Tool tutorial “o8-09 How To Use the Wizard Tool”

Combine instruments [Alt] + [E] + [B]

- With this feature, you can combine several instruments into a single instrument in a variety of ways. You can use this feature to create velocity split, layered or dimension split instruments out of several existing instruments.
- You can also access this command by Right-Clicking in the Instrument area.
- You must have at least two instruments selected in the Bank/Instrument window to access this command. Otherwise, this command will be grayed-out.

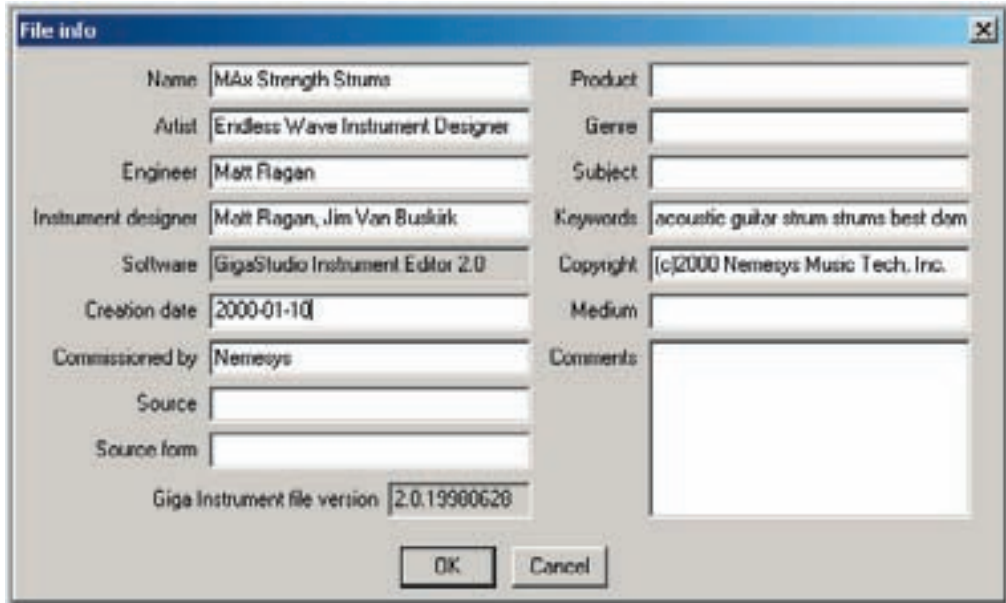
Crossfade editor: [Alt] + [E] + [O]

This command brings up the Crossfade editor screen where you can graphically edit the cross-fades of a layered instrument.



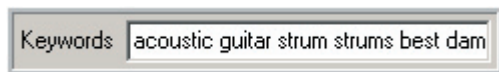
File info: [Alt] + [E] + [I]

This command brings up the File Information Window.



Most of this window is self-explanatory and obvious. You just fill in any of the fields you see with text. There is even a Comments section to add even more detailed information about the instrument.

An important section to point out is the Keywords section.

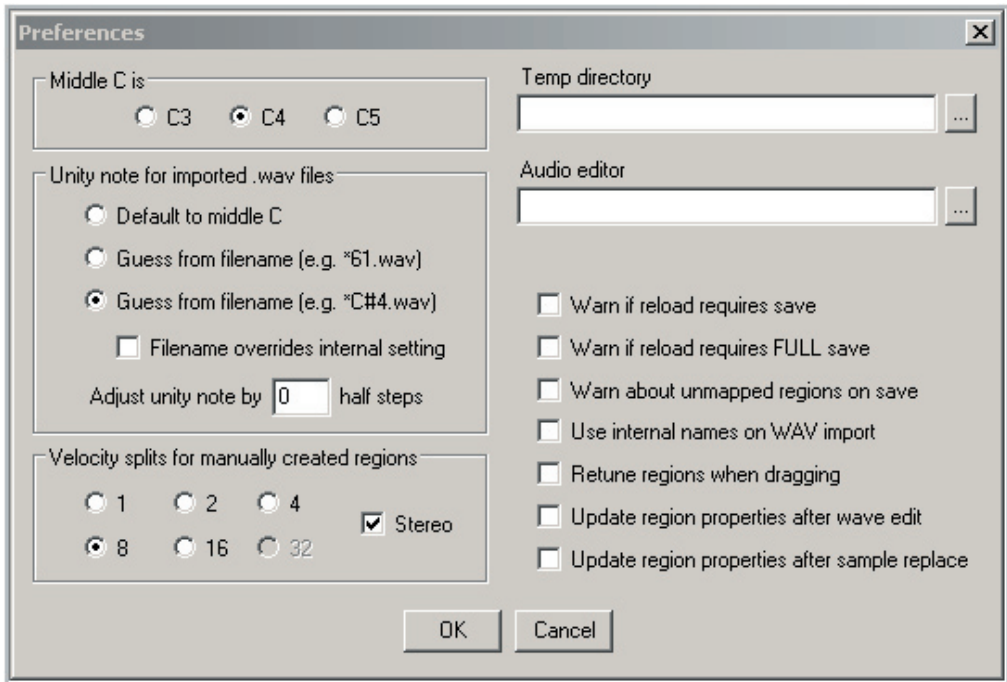


This is where you can enter keywords that the Quick Sound Database will recognize when doing complex searches for GigaStudio instruments. The search criteria can also be edited from the Main Giga Interface and you can do batch keyword entry as well.

The QuickSound Database is covered in detail in its own chapter. “05-05 Tutorial 5 – QuickEdit”

Preferences: [Alt] + [E] + [R]

This is where you setup the various preferences for the Editor. It's a very important section to get to know.



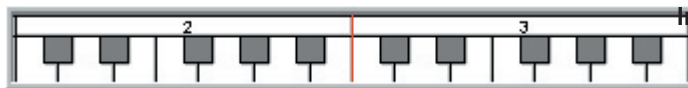
Middle C is: C3-C4-C5 (Default is C4)



This setting will set the location for middle-C. Some keyboards standard for middle-C is offset from what the GigaStudio and many other MIDI devices use. (MIDI note 60)
This setting allows you to match your keyboard setting. The red Middle C indicator will move when you change this setting to confirm the change.



Set to C3



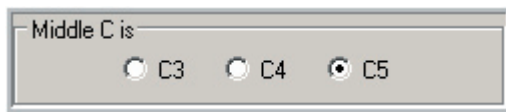
Indicator at C3



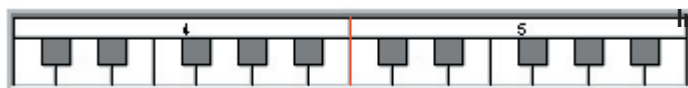
Set to C4



Indicator at C4

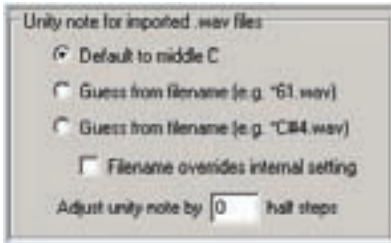


Set to C5



Indicator at C5

Unity note for imported .wav files



- When you import samples into the Editor, this setting will choose what unity note to assign to each sample. This is essential when working with the Wizard Tool, especially if you don't have chromatic samples.
- The Wizard Tool can use these unity note settings and automatically assign regions by unity note and stretch them properly.
- When mapping by hand, this unity note setting will also be taken into account for pitch setting and stretching.

Default to middle C:

This will set all the waves that you import to a unity note of middle-C. This is good for non-melodic instruments like percussion or sound effects that you want to play at the natural pitch.

Guess from filename (e.g. *61.wav):

If you put the MIDI note number (0-127, Middle-C being 60) in the wave file names, the Editor will automatically assign these as the unity notes. Use this setting if that is the way you name your samples.

Guess from filename (e.g. *C#4.wav):

If you put the Note Name (C4-C#4-D4 etc..) in the wave file names, the Editor will automatically assign these as the unity notes. Use this setting if that is the way you name your samples.

Be sure to include the note and the octave when naming the samples.

Be sure to use the number sign (#) for flat & sharp notes.

(A# instead of Bb for example)

We advise that you put a space between the name and the unity note in the file name to avoid confusion.

(Violin Staccato C#4.wav but not ViolinStaccatoC#4.wav)

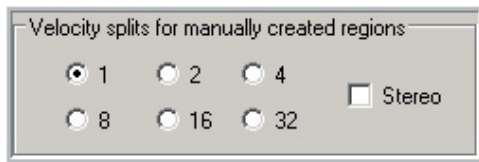
Filename overrides internal setting:

If there are already unity note settings embedded in the wave files, this check box will override these internal unity notes in favor of the wave file name. Some audio editors allow you to embed the unity note information into the wave file. Some even do it automatically, which could be troublesome if you want to use the file name to determine the unity note. That is what this checkbox is there for.

Adjust unity note by # half steps:

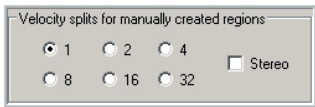
This allows you to transpose the unity notes by half steps after the unity notes are assigned. For example, if you are importing samples with unity notes of F3-F4 (embedded or in the name of the files) and you decide that you want them to be assigned to C4-C5; you would enter a value of 7 here to transpose everything up after it is imported. Then the unity notes will be assigned based on all the settings above plus this offset. You can also offset in negative numbers. This saves having to go back and rename all of your wave files again or having to embed different unity notes into them.

Velocity splits for manually created regions:



With this section, each manually created region can be created with a default amount of velocity splits and stereo settings. You can always come back to this screen and adjust these as you work depending on what you need. It is a huge time saver.

Examples:



Here we have 1-Velocity Split and nothing in the Stereo checkbox. This will create a mono region with no Velocity Splits.



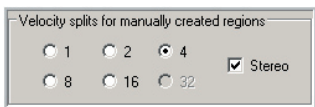
Here is the resulting Region's Velocity window: Zero Velocity Splits and Mono



Here we still have 1-Velocity Split but now the Stereo checkbox is selected.



Here is the resulting Region's Velocity window: Still no Velocity Splits but it is now Stereo.



Now we have 4-Velocity Splits and Stereo Selected.



Here is the resulting Region's Velocity window: Now we have 4-Velocity Splits and Stereo.

Temp directory:

All the editing done in the Editor is nondestructive, even edits done to the waveforms in an external audio editor. This is because when you load a .GIG file into the Editor or import wave files to the wave pool, they are all stored in a temp directory on your hard drive, separate from the original .GIG files or wave files. You can choose which hard drive and directory to use as the temp folder here.

Audio Editor:

To make changes to the audio of the samples, you need to use an external audio editor. This setting will choose which audio editor to use when you choose to “Edit Audio” on a sample in the Editor.

Reload Warnings:

These next two options are related to the Load & Reload status of a .GIG file. Some edit changes will require a partial save while more drastic ones will require a complete re-saving of the whole .GIG file. You will probably want to be warned about this before the Editor starts a long saving process or overwrites your file with the new settings. That is what these settings are for.

See the tutorial on the Load and Reload status light for more details. “08-13 Load Status Lights”

Warn if reload requires save:

This refers to the quick (or partial) save option. If you do not have this checked, the Editor will automatically do a quick save on top of your existing .GIG file. If it is checked, you get a warning screen that gives you the opportunity to “Save As” to another file instead.

Warn if reload requires FULL save:

This refers to the full save option. If you do not have this checked, the Editor will automatically do a full save on top of your existing .GIG file. If it is checked, you get a warning screen that gives you the opportunity to “Save As” to another file instead.

Warn about unmapped regions on save:

This will warn you if you have any blank regions with no samples assigned to them.

Use internal names on WAV import:

Wave files can have two different names, Internal and External names.

The External name is the name of the file as you see it on the windows desktop, just like any other file name.

The Internal name is usually the same name as the external name but can be different if you like. Most audio editors can set a differing internal name or it can be set in the summary information in the file properties of a wave file. If the Internal Names option is checked, the sample will be named the internal name when it is imported into the Giga Editor.

Retune regions when dragging:

This will choose whether your samples will transpose or not when you drag regions up & down the keyboard. If you don't want them to transpose (Pitch Stretch) then check this box. If you do want the pitch to transpose as you move the regions around, then leave it unchecked.

Update region properties after wave edit:

- Checked**-any audio edits you make to a sample/s will updated every case of the sample/s throughout the .GIG file
- Un-checked**-the wave file/s will be edited but the changes will not be reflected in the .GIG file until you re-map the sample/s to a region.

Update region properties after sample replace:

Similar to the last checkbox except it applies to replacing samples instead of editing them.

- Checked**-If you replace samples or directories of samples, the samples will be re placed throughout the entire .GIG file.
- Un-checked**-If you replace samples or directories of samples, the samples in the wave pool will be different but the changes will not be reflected in the instruments of the .GIG file.

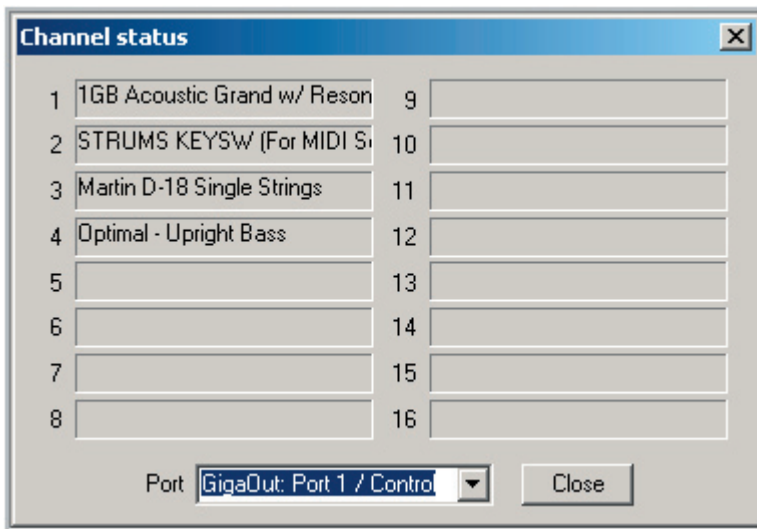
MIDI Menu:

Channel Status: [Alt] + [M] + [C]



Channel Status Tool Bar Button.

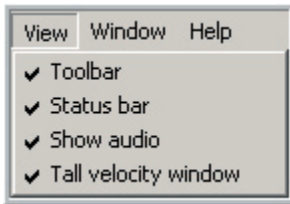
You can also open the MIDI Channel Status window with this Icon on the Tool Bar.



This screen displays the port and channel information for the instruments that are loaded in the Instrument Editor.

Instruments need to be loaded to MIDI channels to be seen here.

View Menu: [Alt] + [V]



You can free up screen space by disabling any of these items. Toggle them on and off by clicking on the item in the menu. A checkmark will appear beside enabled items.

Tool Bar: [Alt] + [V] + [T]

This command displays or hides the Toolbar



The toolbar gives you quick access to some of the commonly used commands. These are the same commands that are found in the menus.



New (New command from the File Menu)



Open (Open command from the File Menu)



Save (Save command from the File Menu)



MIDI Channel Status (MIDI Channel Status from the MIDI Menu)



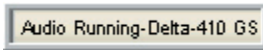
About (Version Info from the Help Menu)



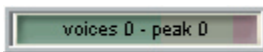
What's This? (Click this button, then click on any area of the Editor and the relevant section of the help file will automatically open up)

Status Bar: [Alt] + [V] + [S]

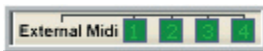
This command displays or hides the Status Bar



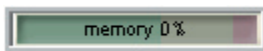
Audio-Audio card information



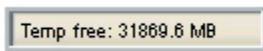
Voices-Real-Time polyphony usage meter
Peak-Highest polyphony count measured



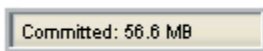
External MIDI-MIDI Port status lights.



Memory-Percentage of RAM used for sample loads



Temp Free-Amount of space free on the temp directory



Committed-Amount of temporary drive space being used by all the loaded instruments.

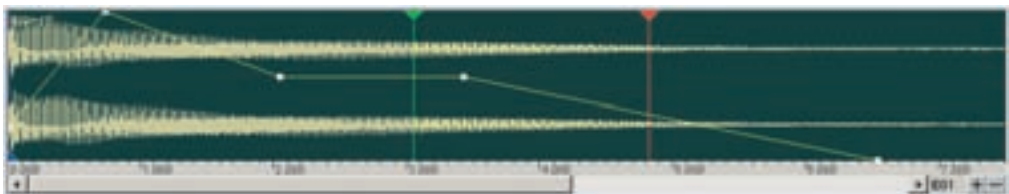
Show Audio: [Alt] + [V] + [A]

This command displays or hides the graphical audio waveform view.

The Waveform View displays the sample wave and the Graphical Parameter such as ADSR envelopes, LFOs and Loop points.

This allows you to precisely edit these parameters and see how they will lay on top of the sample.

Waveform View



Tall Velocity Window: [Alt] + [V] + [V]

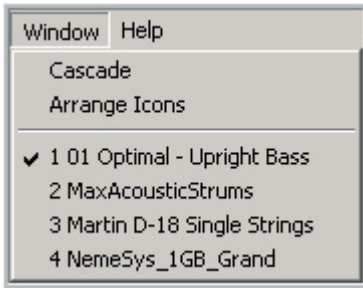
The screenshot shows a 'Tall Velocity Window' with a title bar that says 'Velocity: New split'. The window contains a list of velocity splits, each with a label and two time values. The splits are as follows:

Label	Time 1	Time 2
039ffe	0.000 sec	0.000 sec
039fe	0.000 sec	0.000 sec
039mfE	0.000 sec	0.000 sec
039mfE	0.000 sec	0.000 sec
96 039mfE	.735 sec	.735 sec
039mfE	0.000 sec	0.000 sec
64 039mfE	0.000 sec	0.000 sec
039mfE	0.000 sec	0.000 sec
039mfE	0.000 sec	0.000 sec
32 039mfE	0.000 sec	0.000 sec
039mfE	0.000 sec	0.000 sec
039mfE	0.000 sec	0.000 sec

The row with label '96 039mfE' is highlighted in orange. A mouse cursor is pointing at the second time value '.735 sec' in this row. The left side of the window has a vertical scrollbar with tick marks at 32, 64, and 96.

This command hides or displays the Tall Velocity Window. If you have a lot of velocity splits, this comes in real handy for seeing more of them at once.

Window Menu:



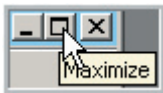
This is similar to the menu that is in most Windows programs.

It allows you to arrange multiple open .GIG files on the screen weather minimized or open windows

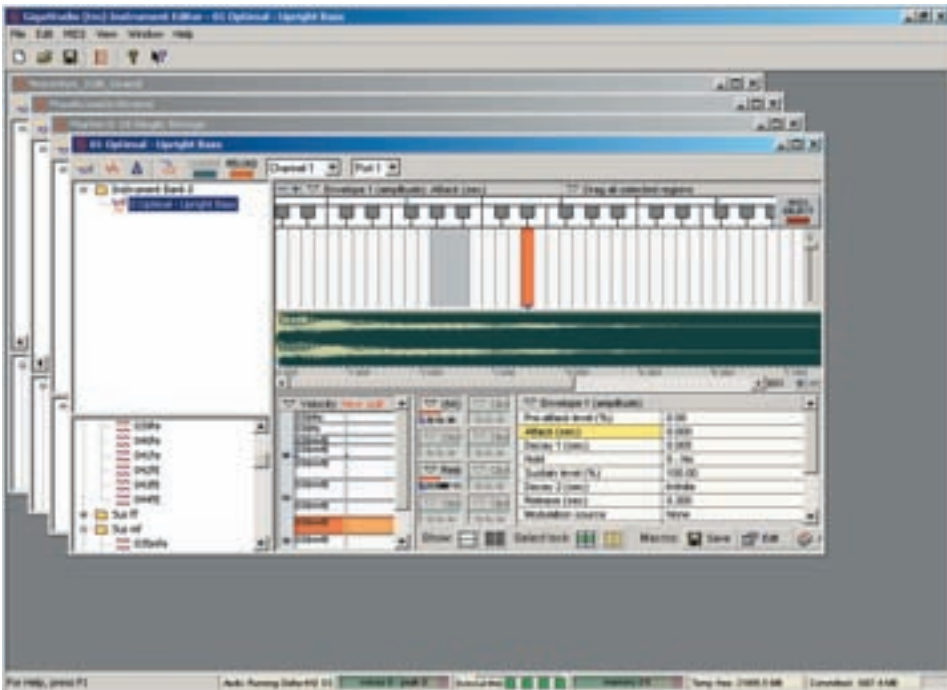
You can also toggle between multiple .GIG files in this menu.

Cascade: [Alt] + [W] + [C]

When you have several .GIG files opened in the Editor, this command will shrink the windows down a bit and stack them diagonally across the screen.



To restore the full screen view, select the Maximize button in the upper right corner of one of the .GIG file windows.

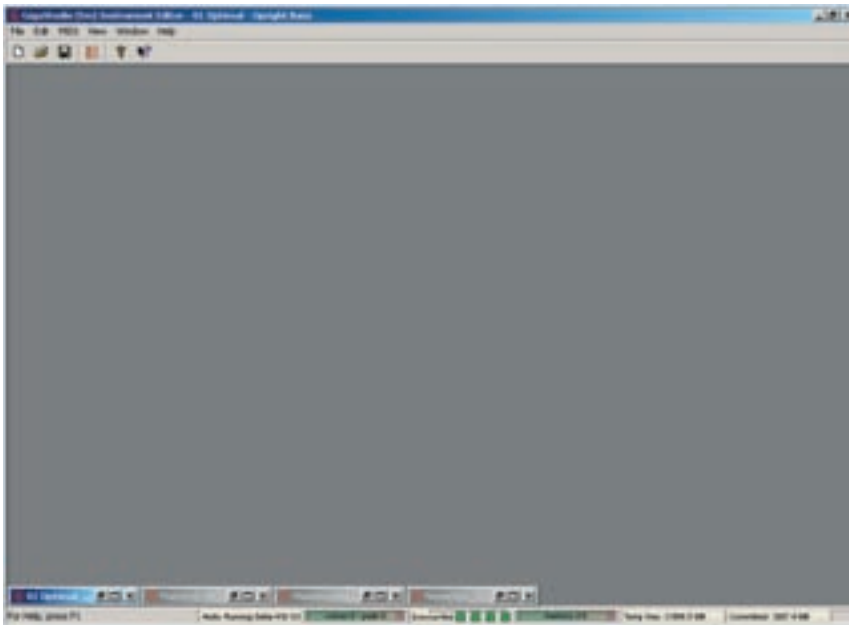


Arrange Icons: [Alt] + [W] + [A]

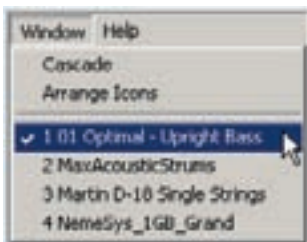
The .GIG file windows need to be minimized down to Icons to use this command.



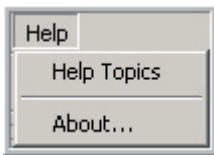
Once you have several minimized icons on the screen, the Arrange Icons command will arrange the icons neatly across the screen.



Select .GIG File: [Alt] + [W] + [Number]



Help Menu: [Alt] + [H]



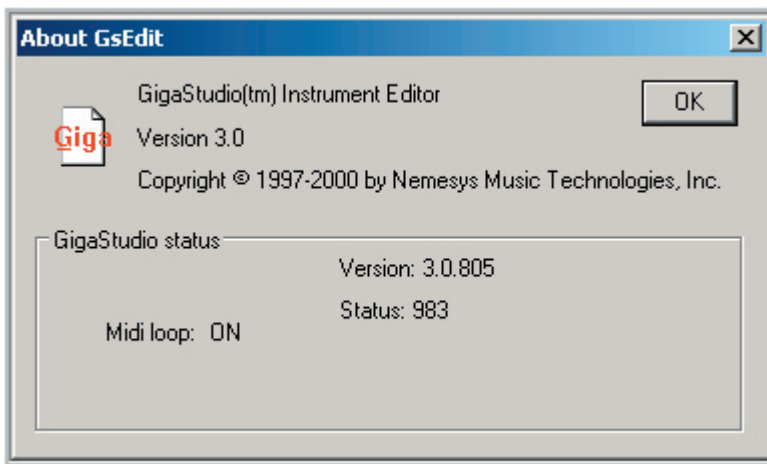
The Help menu is where you can launch the Editor Help file and display the software version information.

Help Topics: [Alt] + [H] + [E]

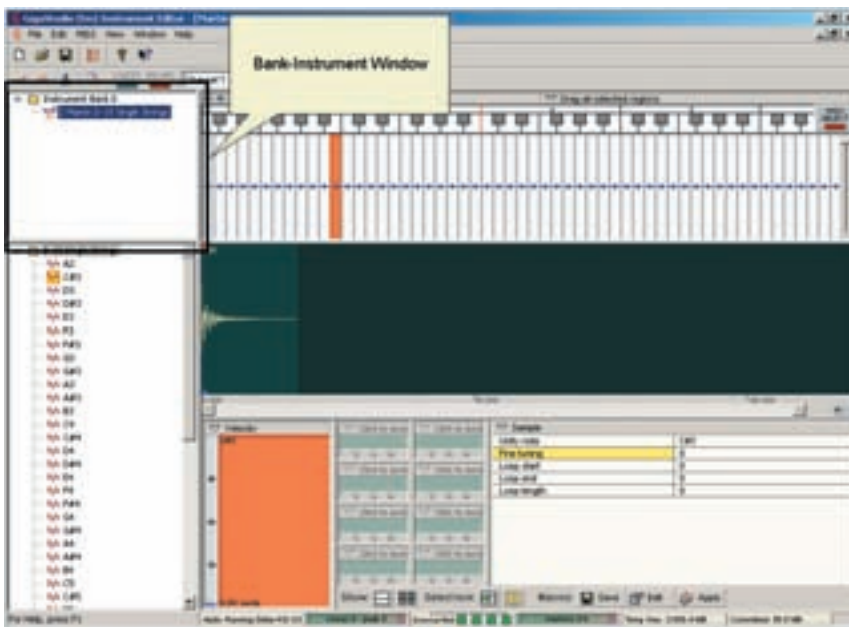
This command launches the Editor Help File

About: [Alt] + [H] + [A]

This command opens the Version Information screen



Bank & Instrument Window



This is where you manage your Instruments and Instrument Banks.

Bank & Instrument Facts:

- GIG files can have multiple Banks and multiple Instruments.
- These correspond and respond to standard MIDI Bank and Patch/Program Changes.
- This is where you cut, copy, paste & rename instruments and change their bank & Patch numbers.
- You can also cut, copy & paste banks as well.
- Banks & Instruments can be moved or copied between .GIG files.
- This is where you toggle between multiple instruments to move or copy regions between instruments.

Banks:

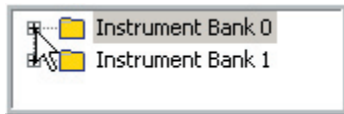


Here is an example of two Instrument Banks. This is two out of a potential of 127 Banks.

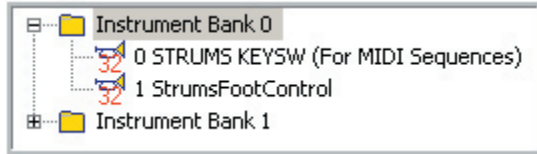
Banks will respond to MIDI Bank Changes.

Banks are also handy for organizing Instruments.

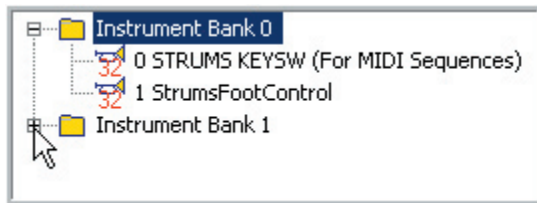
Opening & Closing Banks:



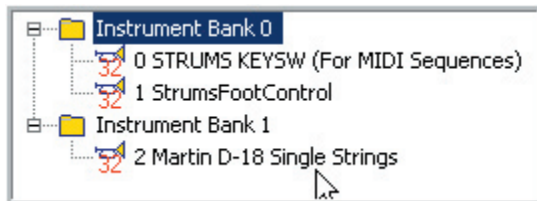
To Open an Instrument Bank, click on the [plus + sign] with the mouse. You can close it again by clicking on the [minus – sign].



Now the Bank is open and you can see the two instruments inside it.



You can also open several Banks at once.



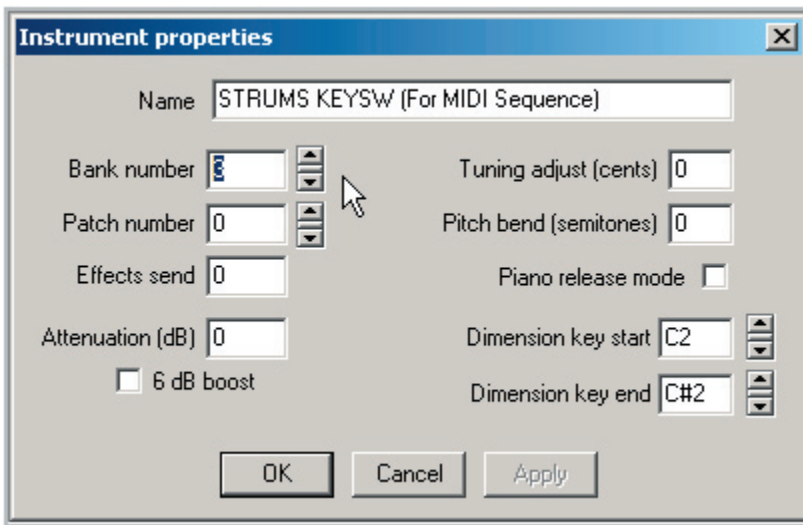
The second bank is now opened.

Creating a New Bank:

1. [Double-click] on an instrument to bring up the Instrument Properties.

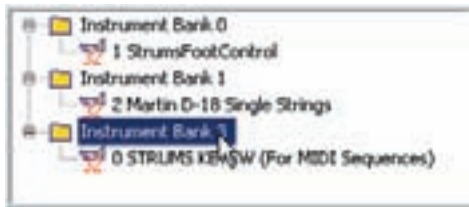
You can change the Bank and Patch number here among other things.

In this example, we will change this instrument to Bank 3. This will create a new Bank and move the instrument into it. This is how you create new Banks.



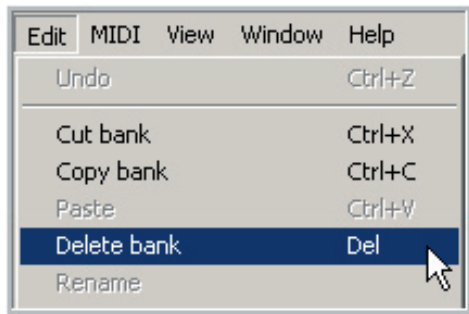
2. Now the instrument is in Bank 3. This is the best way to create a new Bank.

Deleting Banks:



1. To Delete a Bank, select the Bank you wish to delete with the mouse.

Keep in mind that when you delete a Bank, you also delete any Instruments within it. (The samples are not deleted however)



2. Go to the Edit Menu and choose “Delete bank” with the mouse.

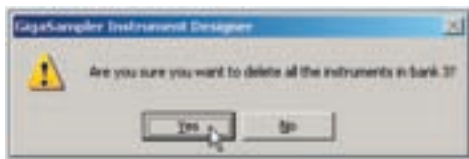
The Edit Menu lists these edit commands as Banks since we have selected a Bank.

These will change depending on what is selected.



3. Or [Right-Click] on the Instrument Bank to bring up the Bank Edit menu and choose “Delete bank” with the mouse.

You can also click on the [Delete-Key] on your computer keyboard.



4. You will then get a window asking if you are sure you want to delete the Bank.

Choose Yes to delete it.



5. Now the Bank is gone.

The wave files of the deleted instrument will remain in the .GIG file in the sample pool.

You can only delete one bank at a time.

Cut or Copy Bank:



1. Select the Bank you want to Copy or Cut & Paste a Bank, with the mouse.

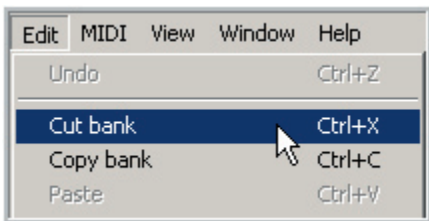
2. Once you have selected a Bank to Copy or Cut, you can go to the “Edit Menu” and choose the “Copy” or “Cut Bank” command using the mouse.



3. Go to the Edit Menu and choose “Copy bank” or “Cut bank: with the mouse.

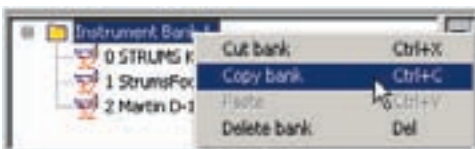
“Copy bank” will copy the Bank and all of its Instruments to the clipboard.

You can also use [Ctrl] + [C] on the computer keyboard.



4. “Cut bank” will delete the Bank and then copy all of its Instruments to the clipboard.

You can also use [Ctrl] + [X] on the computer keyboard.



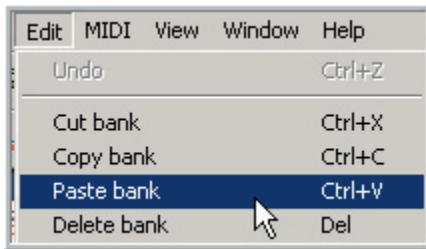
5. Or [Right-Click] on the Bank to bring up the Bank Edit Menu and choose “Copy bank” with the mouse.



6. A progress window will come up.

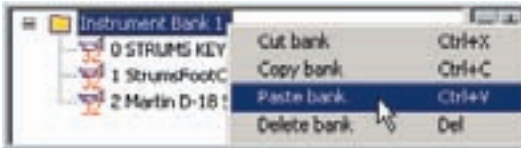
Now we are ready to Paste the Bank to a new location.

Paste Bank:

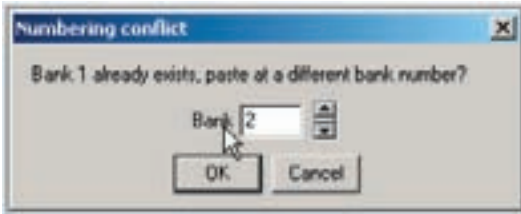


1. Go to the Edit Menu and choose “Paste bank” with the mouse.

You can also use [Ctrl] + [V] on the computer keyboard.



2. Or [Right-Click] on the Bank to bring up the Bank Edit menu and choose “Paste bank” with the mouse.



3. You will then get a prompt asking you to pick an unused Bank Number.

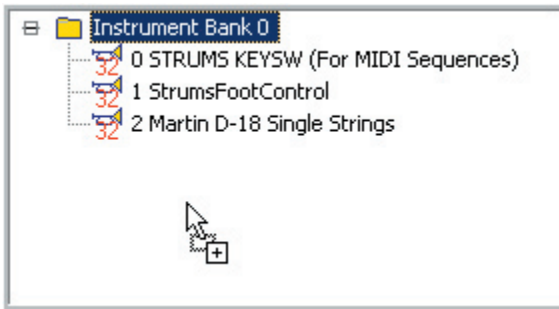
For this example, we will choose 2.



4. The Bank is now copied to its new location with all of its instruments.

[Drag and Drop] Copy & Paste Banks:

A simpler and faster method is to [drag & drop] the Bank with the mouse.



1. Grab the bank with the mouse and hold the left mouse button down and drag into any of the surrounding space.

This one simple operation will do all the steps mentioned before in one quick stroke.



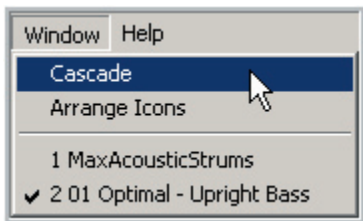
2. You will get the prompt to put in an unused bank number and then the Bank will be copied as before.

Copy & Paste Banks between different .GIG Files:

The Cut/Copy & Paste functions can also be applied between .GIG files.

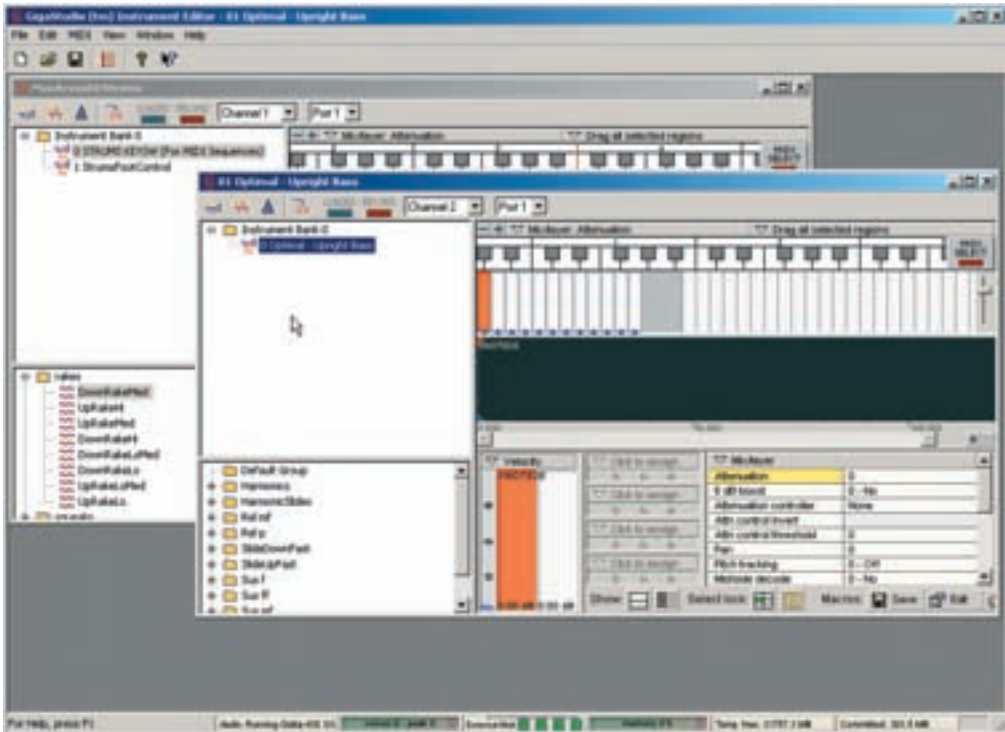
[Drag & Drop] Between files:

You need to have at least two files opened in the GigaStudio Editor. They don't have to be loaded to MIDI channels for this purpose.



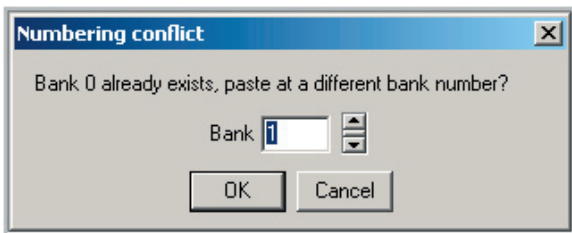
1. Go to the Window menu and choose “Cascade” with the mouse. This will stack the .GIG files on top of each other and minimize their screen to a more manageable size.

2. Bring the file with the Bank you want to copy “from” to the front so that it is on top of the file you want to copy the bank “to”.





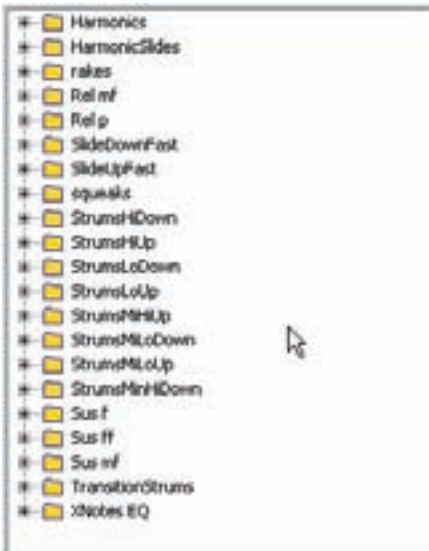
3. Drag the Bank from one file to the other with the mouse.



4. Enter an unused Bank number if necessary.



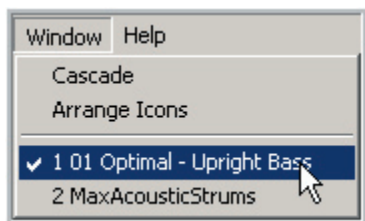
5. The bank is now copied to the other .GIG file.



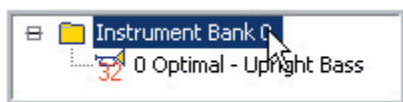
6. The Samples are also copied to the sample window in the .GIG file.

Cut/Copy & Paste Banks between .GIG files

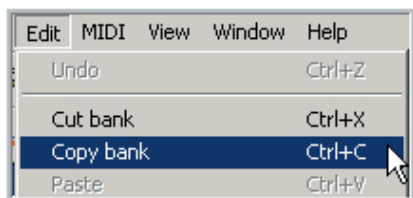
(with Menus or Key Commands:)



1. Go to the Window Menu and choose the .GIG file you want to copy “from”.

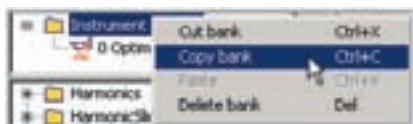


2. Select the bank you want to copy with the mouse.

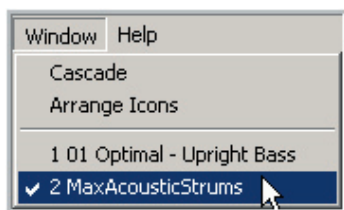


3. Go to the Edit Menu and choose “Copy bank” with the mouse.

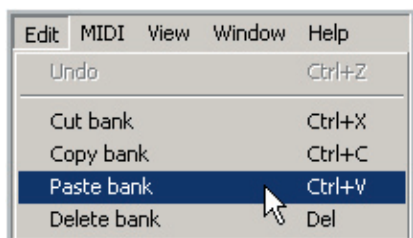
You can also use [Ctrl] + [C] on the keyboard.



4. Or [Right-Click] on the Bank to bring up the Bank Edit menu and choose “Copy bank” with the mouse.



5. Go to the Window Menu and choose the .GIG file you want to copy “to”.

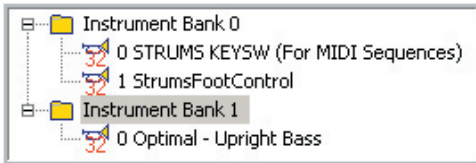


6. Go back to the Edit Menu and choose “Paste Bank” with the mouse.

You can also use [Ctrl] + [V] on the keyboard.



7. Or [Right-Click] on the Bank to bring up the Bank Edit menu and choose “Paste bank” with the mouse.



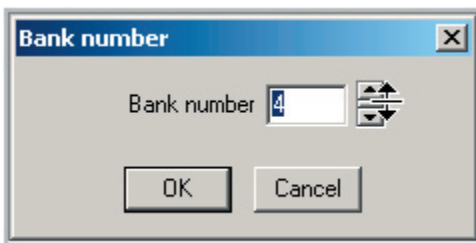
8. The Bank is now copied.

Changing the Bank Number:



1. [Right-Click] on a Bank

Choose the “Change bank number” with the mouse



2. A window will come up asking you for a Bank Number.

You can enter it with the keyboard or use the mouse. Click the [Up & Down] arrows with the mouse or drag the spinner between the arrows.



3. The Bank is now changed to Bank 4.

Instruments:



Here is an example of a bank with three Instruments.

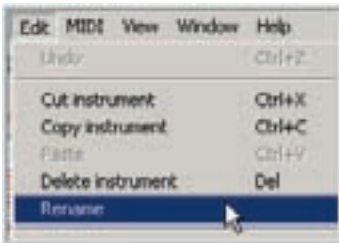
- An Instrument is what loads to a MIDI channel in the GigaStudio.
- GigaStudio files can have many Instruments within them.
- The Instruments can all be inside a single Bank or organized across several Banks.
- Instruments respond to standard MIDI Patch (or Program) Changes in real time.

Renaming Instruments:

Renaming with the Edit Menu or Keyboard Shortcuts:

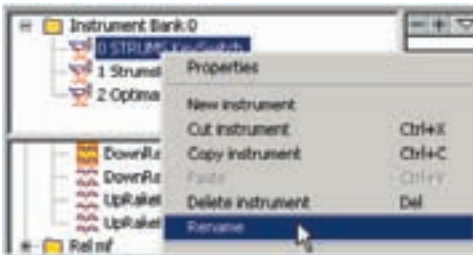


1. Select the Instrument you want to rename with the mouse.



2. Go to the Edit Menu to choose the “Rename” with the mouse.

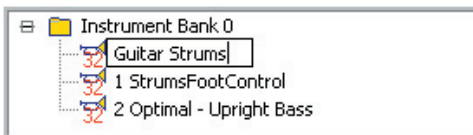
You can also use [Alt] + [E] + [N] on the Keyboard.



3. Or [Right-Click] on the Instrument to bring up the Instrument Edit menu and choose “Rename” with the mouse.



4. The Instrument Name will now be highlighted, ready to be renamed.



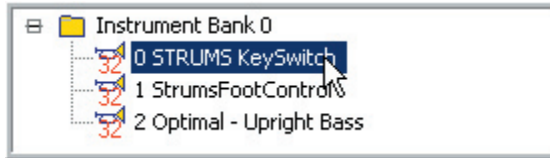
5. Enter the text that you want for the new Name.



6. When you're done renaming the Instrument, click on the [Enter Key] or click anywhere on the screen with the mouse. The Instrument is now renamed.

Renaming by clicking on the Instrument Name:

Here is an even simpler and faster way to rename an Instrument.



1. Click once on the Instrument name to highlight it.

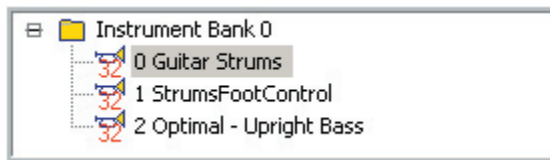


2. Now click on it a second time and you can rename it.

This is like a real slow [double-click]



3. Enter the text that you want for the new name.

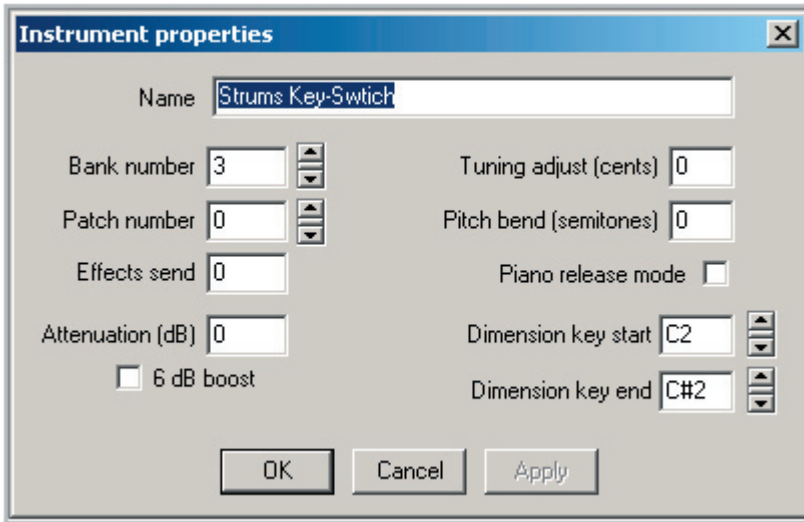


4. Click on the [Enter Key] or click anywhere on the screen with the mouse. The Instrument is now renamed.

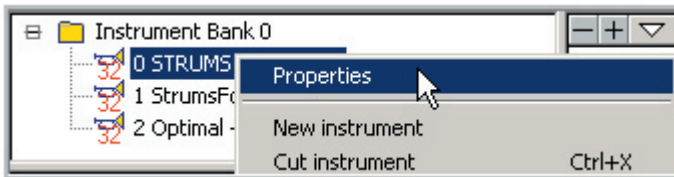
Renaming with the Instrument Properties Window:

1. [Double-Click] on the Instrument and the Instrument Properties Window will come up. You can then change the name of the instrument.

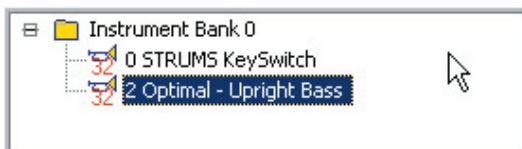
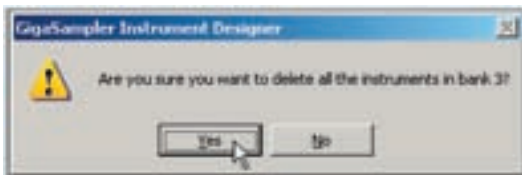
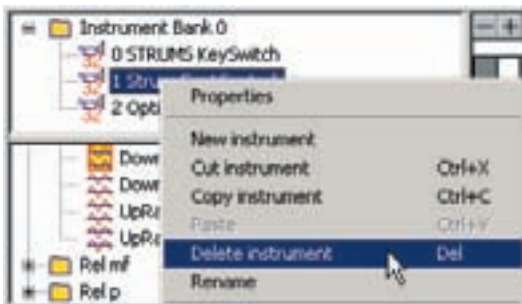
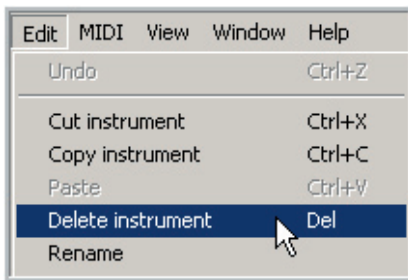
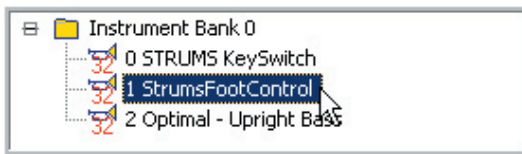
This is where you can also edit the Patch and Bank number among other things.



2. Or [Right-Click] on the Instrument and chose "Properties" with the mouse.



Deleting Instruments:



1. Select the Instrument you want to delete with the mouse.

2. Go to Edit Menu and choose the “Delete instrument” with the mouse.

The Edit Menu lists these edit commands as Instruments since we have selected an Instrument.

3. Or [Right-Click] on the Instrument to bring up the Instrument Edit Menu and choose “Delete instrument” with the mouse.

You can also click on the [Delete-Key] on the computer keyboard.

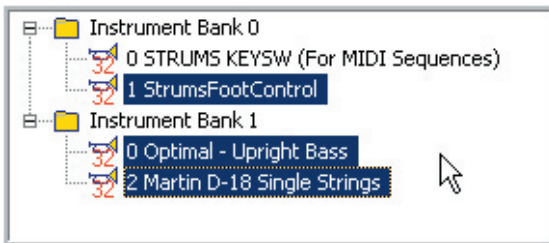
4. You will then get a window asking if you are sure you want to delete the Instrument.

Choose [Yes] to delete it.

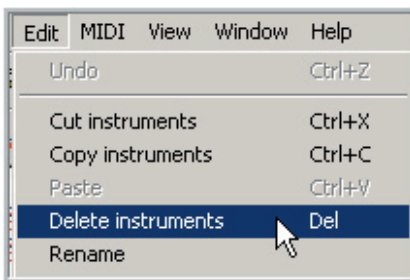
5. Now the Instrument is gone.

The wave files of the deleted instrument will remain in the .GIG file in the sample pool.

Deleting Multiple Instruments:

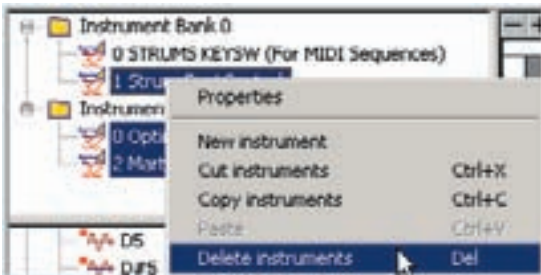


1. Hold down the [Shift-Key] and select several Instruments with the mouse.



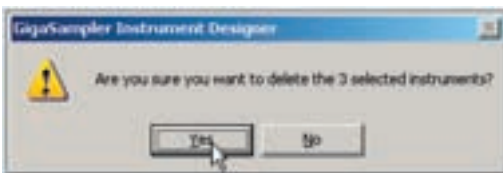
2. Go to the Edit Menu and choose “Delete instruments” with the mouse

Notice that the editor displays “instruments” (plural) instead of “instrument” (singular) It knows that you have selected more than one instrument.

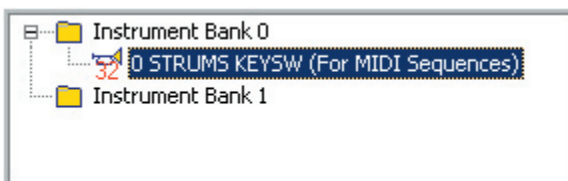


3. Or [Right-Click] on an Instrument to bring up the Instrument Edit menu and choose “Delete Instruments” with the mouse.

You can also click on the [Delete-Key] on the computer keyboard.



4. Choose Yes to Delete the Instruments.



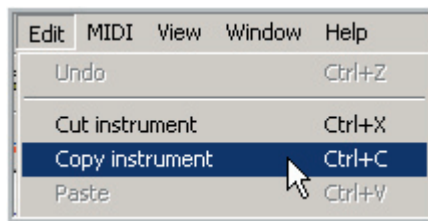
5. Now the Instruments are gone.

The Samples are still in the .GIG file though.

Cut/Copy & Paste Instruments:

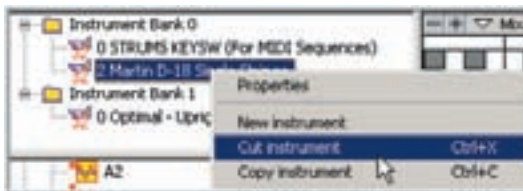


1. Select the Instrument you want to cut or copy with the mouse.



2. Select the Cut or Copy command from the Edit Menu.

You can also use [Ctrl] + [C] for Copy or [Ctrl] + [X] for Paste on the computer keyboard.



3. Or [Right-Click] on the Instrument to bring up the Instrument Edit Menu and choose “Cut instrument” or “Copy instrument” with the mouse.

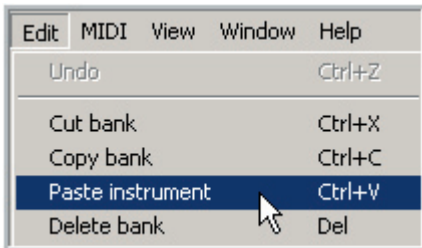


4. A progress window will come up showing that the samples are being copied.

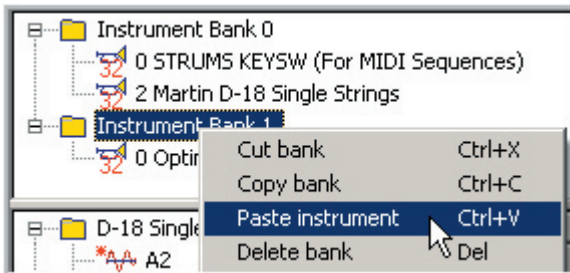
Paste Instruments:



1. Select the Bank you wish to copy “to” with the mouse.



2. Select “Paste Instrument” in the Edit Menu or use [Ctrl] + [V] on the computer keyboard.

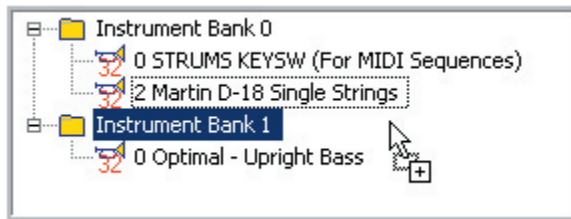


3. Or [Right-Click] on the Bank and select “Past Instrument”.



4. Now the instrument is copied to the Bank.

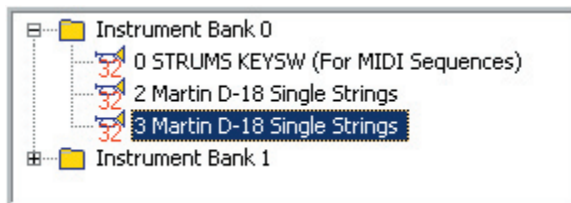
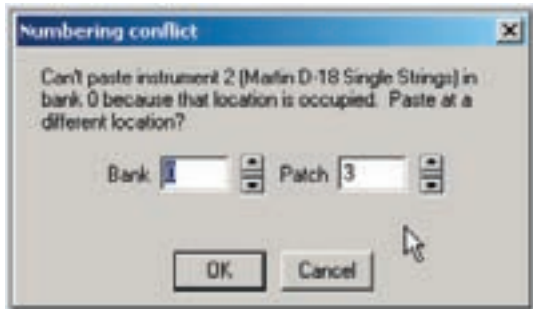
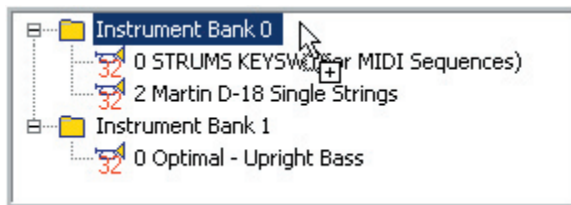
[Drag & Drop] Instruments between Banks:



1. The fastest way to copy and Paste an Instrument is to drag it from one Bank to another with the mouse.

2. In one single step, the Instrument has been copied from one Bank to the next.

[Drag & Drop] Instruments within a Bank:



1. You can also [drag & drop] an Instrument within its own Bank and create copy of it within the Bank.

Drag the instrument to the Bank.

2. Since there is a patch number conflict, you will get this prompt asking for different Patch location.

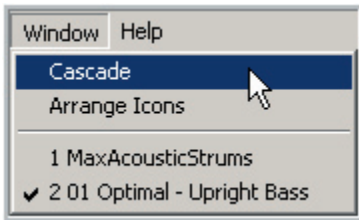
Give it a new Patch Number.

3. Here is the Instrument copied within it's own bank with the new patch number. Now you can edit this version instrument without harming the original.

Copy & Paste Instruments between different .GIG Files:

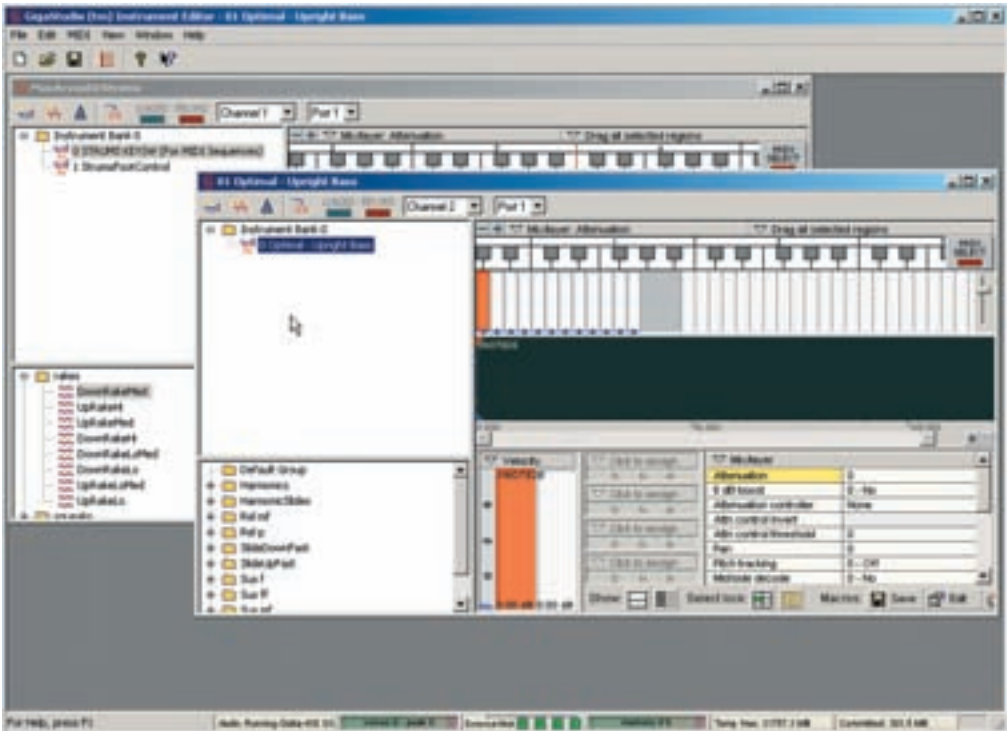
[Drag & Drop] Between files:

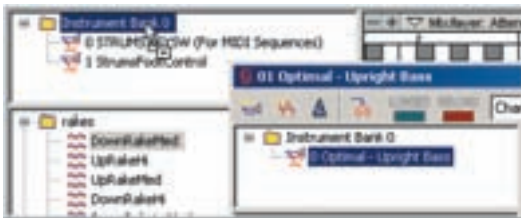
You need to have at least two files opened in the GigaStudio Editor. They don't have to be loaded to MIDI channels for this purpose.



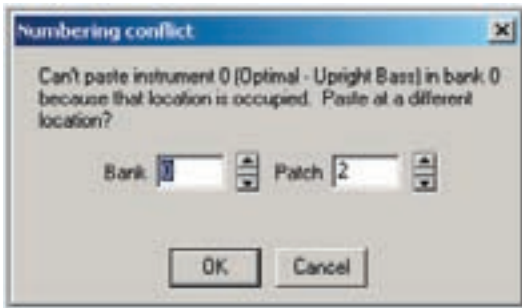
1. Go to the Window menu and choose “Cascade” with the mouse. This will stack the .GIG files on top of each other and minimize their screen to a more manageable size.

2. Bring the file with the Instrument you want to copy “from” to the front so that it is on top of the file you want to copy the Instrument “to”.

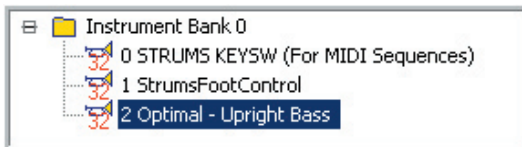




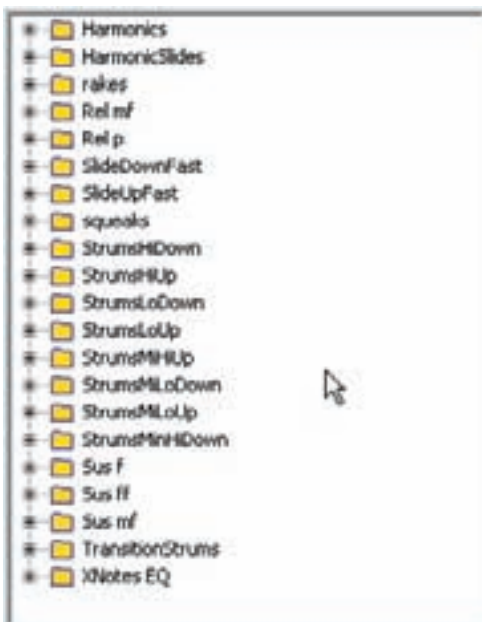
3. Drag the Instrument from one file to the other with the mouse.



4. Enter an unused Patch number if necessary.

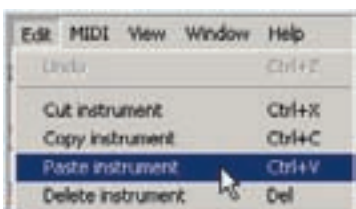
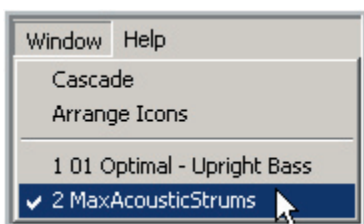
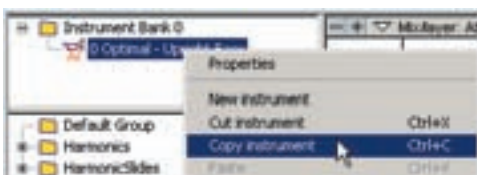
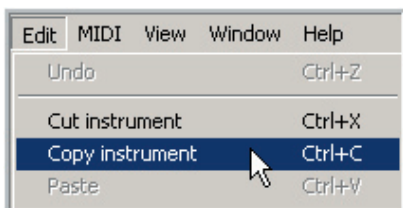
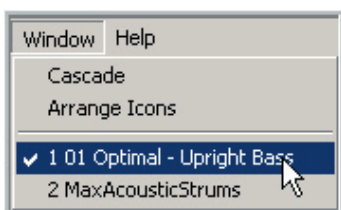


5. The Instrument is now copied to the other .GIG file.



6. The Samples are also copied to the sample window in the .GIG file.

Cut/Copy & Paste Instruments between .GIG files with Menus or Key Commands:



1. Go to the Window Menu and choose the file you want to copy an instrument “from”.

2. Select the Instrument you want to copy with the mouse.

3. Go to the Edit menu and choose “Copy instrument” or “Cut instrument” with the mouse. You can also use [Ctrl] + [C] to copy or [Ctrl] + [X] to cut on the computer keyboard.

4. Or [Right-Click] on the Instrument to bring up the Instrument Edit menu and choose “Copy Instrument” or “Cut Instrument” with the mouse.

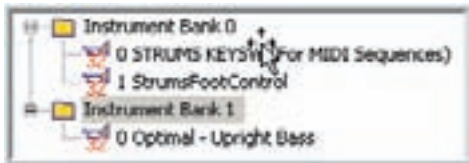
5. Go back to the Window menu and choose the file you want to copy “to” with the mouse.

6. Go to the Edit menu and choose “Paste instrument” with the mouse.

You can also use [Ctrl] + [V] on the computer keyboard.



7. Or [Right-Click] on an Instrument to bring up the Instrument Edit menu and choose “Paste instrument” with the mouse.



8. The Bank is now copied.

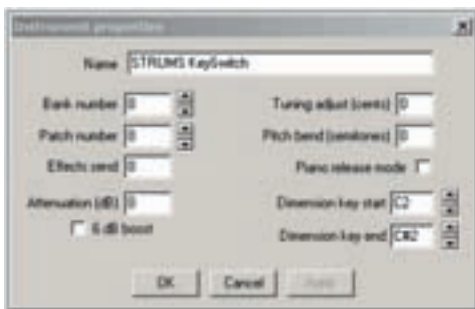
Notes on Pasting Instruments:

When you paste Banks & Instruments, one of two things will happen.

- They will simply paste to the next available patch number
- You will be prompted to assign an unused bank & patch number.

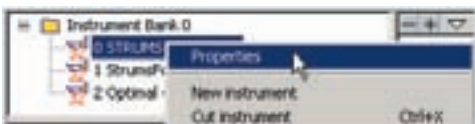
This depends on what patch numbers are available in the Bank you are copying to and what the copied instrument patch number is. Whenever there is a conflict, then you will be prompted to assign new bank or patch number. If there is no conflict, it will automatically put the copied instrument into the bank at the next available patch number.

Changing the Bank & Patch number of an Instrument:

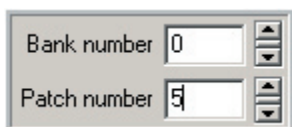


1. [Double-Click] on an Instrument to bring up the Instrument Properties Window.

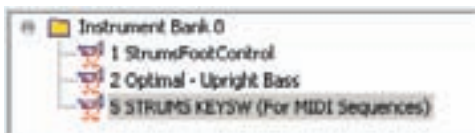
This is where you change the Bank & Patch numbers.



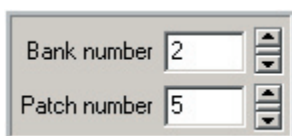
2. Or [Right-Click] on the Instrument to bring up the Instrument Edit menu and choose “Properties” with the mouse.



3. Use the Mouse or Keyboard to change the Bank & Patch number. Click [OK]



4. The Instrument has been moved from patch 0 to patch 5. This moves it down in the list and it will now respond to MIDI Patch Change 5 instead of 0.



5. Or we can change the Bank number.



6. A new Bank is created and the Instrument is moved to it.

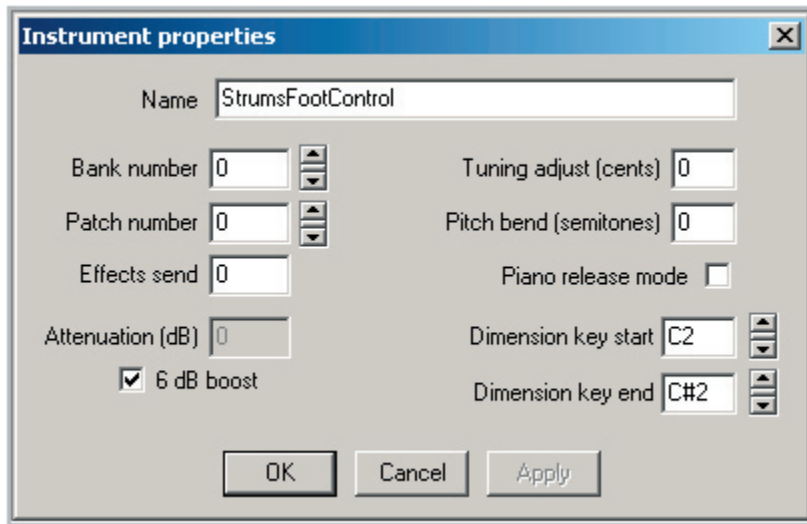
Instrument Properties:

Open Instrument Properties:

There are two ways to open the Instrument Properties Screen

- [Double-Click] with the mouse on an instrument
- [Right-Click] on an instrument and choose “Properties” from the Instrument Edit menu with the mouse.

Instrument Properties Window:



Name:

You can change the Instrument Name in this box.

Bank & Patch Number:

This is where you assign the Bank & Patch (or Program Change) numbers. These settings are what the instruments will respond to when standard MIDI Bank & Patch Change commands are sent from a keyboard or sequencers.

Enter a number from 0-127 for Bank & Patch Numbers.

Effects Send:

This feature is disabled for the time being.

Attenuation & 6 dB Boost:

This allows a global Attenuation setting for the whole instrument. If the instrument is prone to distorting or too loud, you can bring the volume down with this setting.

Enter a value from 0-96 (dB)

You can boost the overall volume of the Instrument by checking the 6 dB boost checkbox.

This will cancel out the Attenuation Setting.

This also cancels out any 6 dB boost settings on individual Dimensions.

Tuning Adjust (Cents):

You can adjust the global tuning of the entire instrument in cents over a range of 7 octaves up or down. Ranges between 1-50 are more likely to be used though.

This is very handy for tuning instruments from different libraries to match each other.

Enter a value from -8400-+8400

- A Quarter Tone is 50 cents.
- A Half step is 100 cents.
- A Whole step is 200 cents.
- An Octave is 1200 cents.
- 8400 cents is 7 octaves

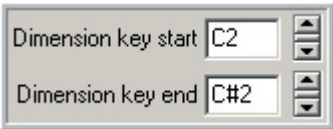
Pitch Bend (Semitones):

Set the Pitch Bend Range between 0-12 Semitones (or Half Steps)

Piano Release Mode:

This checkbox is for Piano samples. On a real piano, you can step on the sustain pedal very quickly after releasing the notes and you will still get some strings resonance. This checkbox allows the GigaStudio to emulate that when using Pedal Down samples. This is not needed however if your pedal down ambience is from the GigaPulse. It's only needed for piano libraries that use actual pedal down samples for that ambience.

Dimension Key Start & End Range:



This is one place to set the range of the Key-Switch keys.

There are three ways to make these changes here.



Enter the key directly with the keyboard



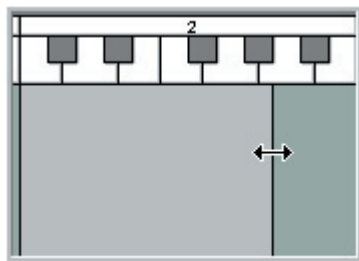
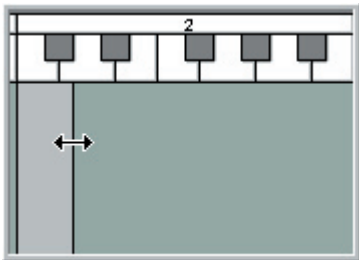
Click on the [Up & Down] arrows with the mouse.



Drag the spinner with the mouse.

You can also set this range very quickly in the Region Window by dragging the range of the Key-Switch region.

(The Key-Switch range is Purple when there is a Key-Switch dimension. Otherwise, it will be colored gray.)



Bank & Instrument Edit Menus:

Bank Edit Menu:

[Right-Click] on a Bank to bring up the Bank Edit Menu.

Cut bank	Ctrl+X
Copy bank	Ctrl+C
Paste	Ctrl+V
Delete bank	Del
Change bank number	

These are the basic Cut-Copy-Paste & Delete Edit commands that are also found in the Edit Menu.

This provides a quick way to access these basic commands instead of having to go up to the Edit Menu.

Instrument Edit Menu:

[Right-Click] on an Instrument to bring up the Instrument Edit Menu.

Properties	
New instrument	
Cut instrument	Ctrl+X
Copy instrument	Ctrl+C
Paste	Ctrl+V
Delete instrument	Del
Rename	
Instrument wizard	
Duplicate instrument	
Combine instruments	
Macro to entire instrument(s)	▶
Crossfade editor	
Save tuning template	
Apply tuning template...	
Move up	
Move down	
iMIDI Rule Manager...	

This brings up the basic Cut-Copy-Paste-Delete & Rename commands that are also found in the Edit Menu.

Sample Window

The Sample Window is the area of the Instrument Editor interface where the instrument samples are imported and organized.

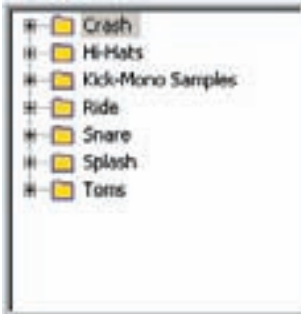
In a .GIG file with more than one instrument, these instruments can share samples from the Sample Window.

The wave samples are organized into folders.

There will be at least one folder in the Sample Window at all times.

By default, a single folder named “Default Sample Group” is created within a new .Gig file. This folder can be re-named to whatever is appropriate, and as many folders as are necessary may be added as well.

Folder View:



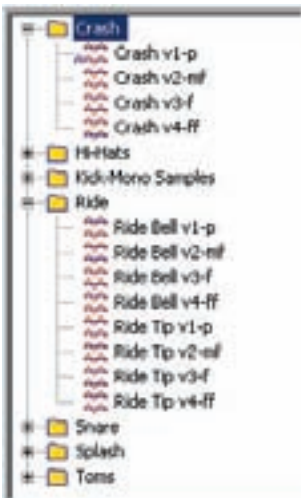
Here is a view of the wave pool containing several folders.

It is extremely helpful organize the samples into folders for designing and building complex instruments.

Folders should be divided in categories by instruments, velocity splits and dimension splits.

This is especially important when working with the Wizard Tool.

Sample View:



Clicking on the [Plus] sign (+) to the left of a folder opens it up to display the samples inside.

Clicking the [Plus] sign again will close the folder.

Samples are mapped out by dragging them from here to the Velocity Zones in the Velocity Map.

Sample Icons:

You can tell exactly what kind of samples are in a folder by the wave icons to the left of the sample name.



A single wave line indicates a Mono sample.



A double wave line indicates a Stereo sample.

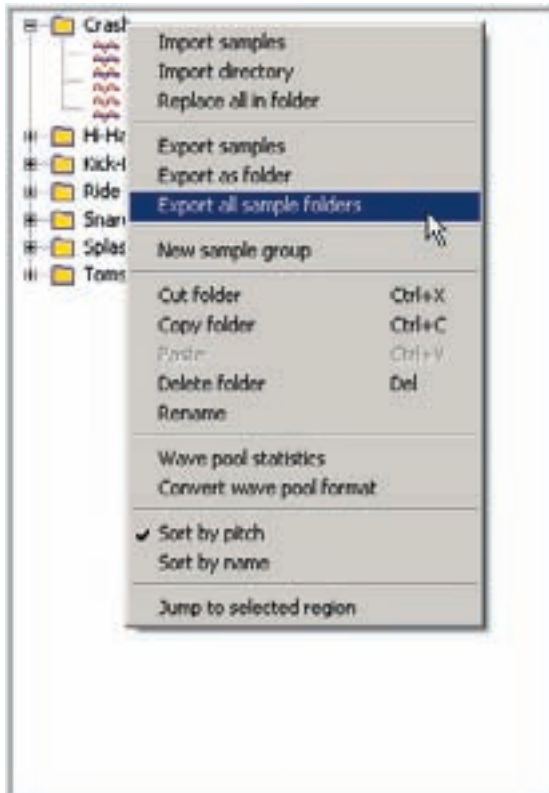


A tiny letter “A” indicates that this is the Audition sample.



Blue-Green wave lines indicate that the samples have been compressed with the GigaStudio Disk Acceleration.

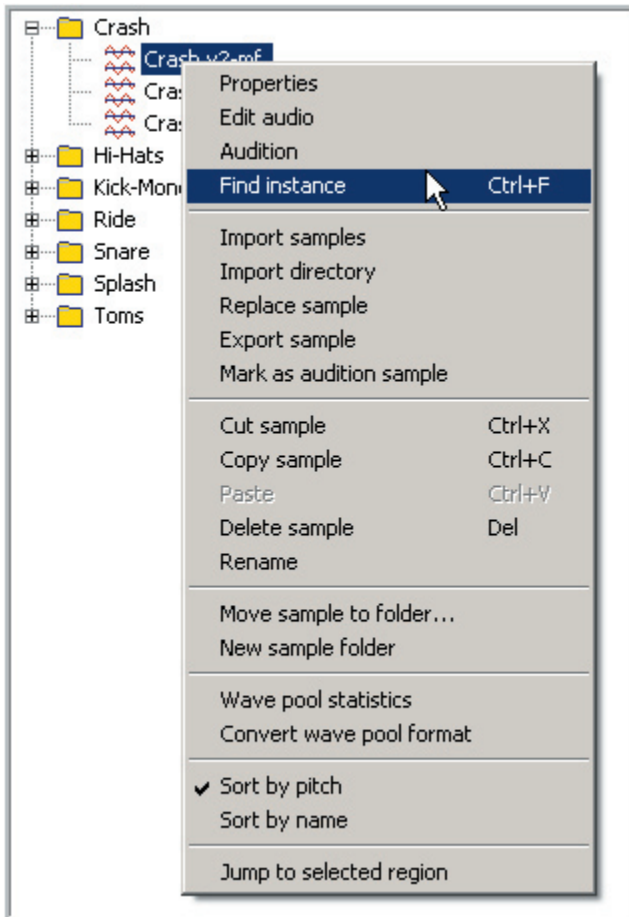
Accessing the Folder Context Menu:



{Right-clicking} on a Folder brings up the Folder Context Menu.

Accessing the Sample Context Menu:

[Right-clicking] on a Sample brings up the Sample Context Menu.

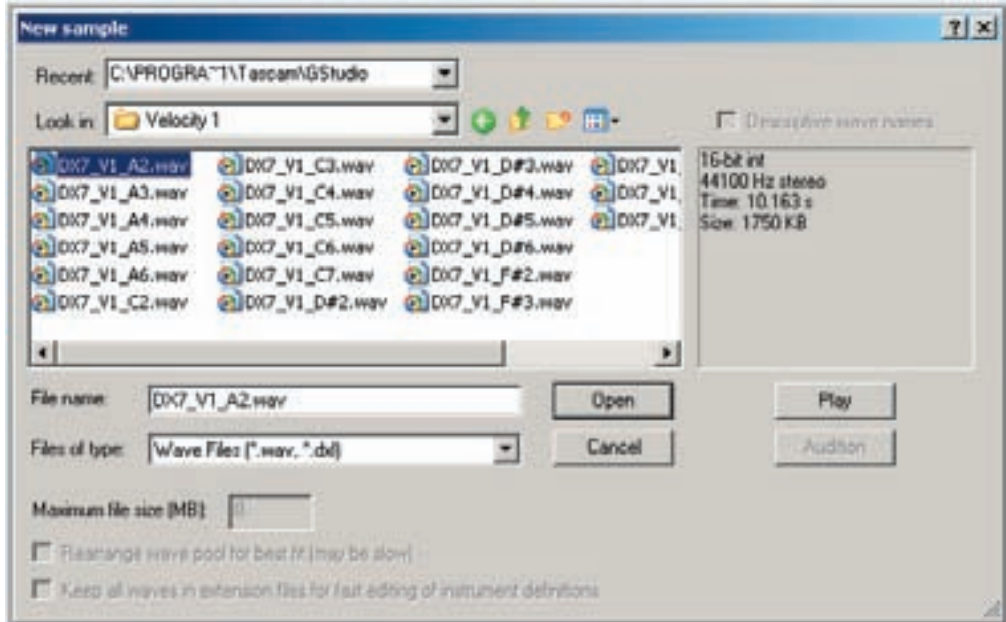


Folder Context Menu:

Import Samples:

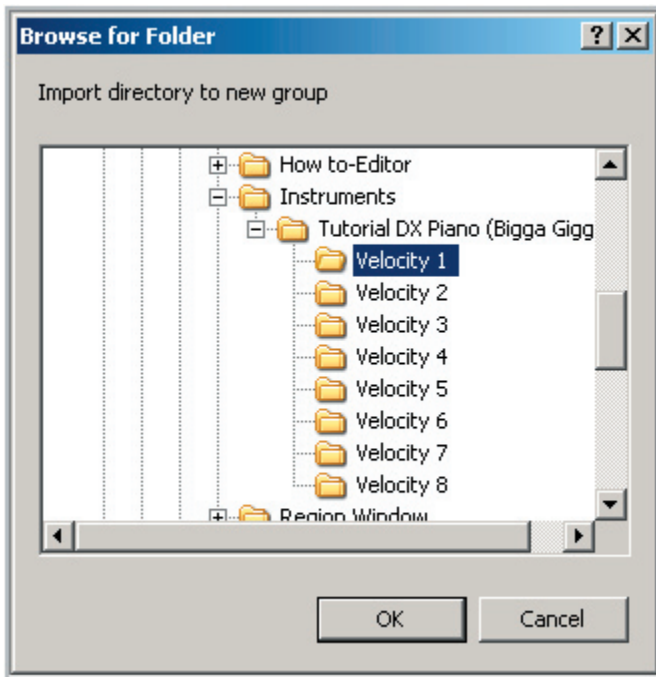
Selecting this option will bring up the browsing window below:

- Use this window to find and select which samples to import.
- The samples will be imported into the folder you [right-clicked] on to bring up this context menu.
- Use [shift] + [select] or [ctrl] + [select] to select multiple samples.
- When you click on a sample, you can see the file details in the window on the right. You can also play any selected sample by clicking on the [Play] button.
- Click on [Open] to import the samples into the Editor.



Import Directory:

- This command lets you import an entire folder of samples.
- Use this window to find sample folders.
- Only one folder at a time can be imported this way.

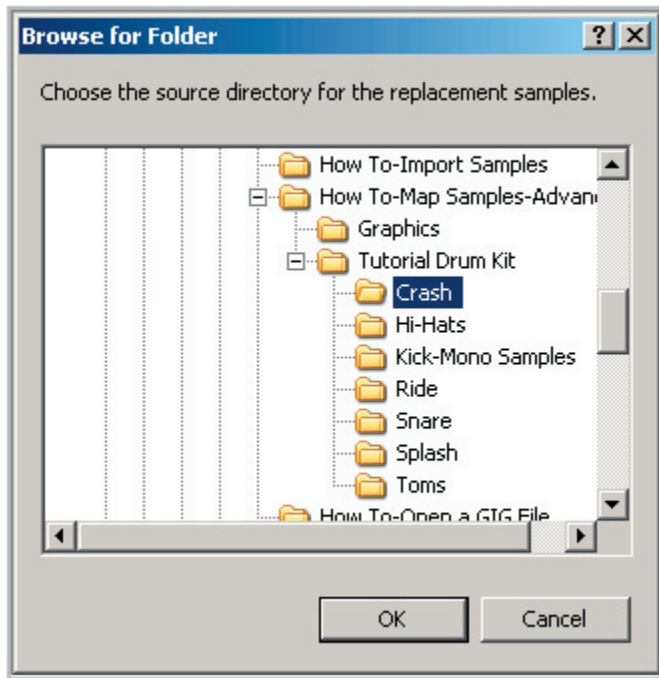


Alternatively, you can simply [drag & drop] a folder from the desktop into the Sample Window. This method allows you to import multiple folders at once.

Replace all in Folder:

This command allows you to replace all the current samples in a folder with new versions.

- This is a good option if you have made audio changes to your samples outside the GigaStudio after having mapped out the instrument.
- Instead of having to rebuild the whole instrument, you can batch replace the samples from here.
- A common use for this feature is to replace the original samples with noise reduced versions or to replace 16 bit samples with 24 bit versions.
- For this to work properly, it is important that the file names of the new samples match the file names of the original samples as they appear in the Editor.



Export Samples:

This command will export all the samples in the selected folder to the hard drive as wave files. You will need to choose a folder to put these samples in.

Export as Folder:

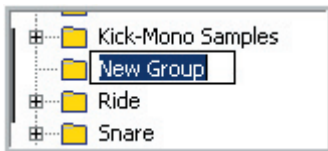
In this case, the whole folder will be exported to the hard drive as a folder of wave files. The folder will have the same name as it does here in the Editor.

Export all Sample Folders:

This command will export all the folders of the .GIG file to the hard drive as wave files. They will be named and organized exactly as they are here in the Editor.

New Sample Group:

Creates a new empty folder.



Cut Folder: [Ctrl] + [X] Keyboard Shortcut

- This will Delete the selected Folder and put it into the clipboard so that it can be pasted to another location.
- The folder can then be pasted in the Sample window of another opened .GIG file.

Copy Folder: [Ctrl] + [C] Keyboard Shortcut

- This will Copy the selected Folder without deleting it and put it into the clipboard so that it can be pasted to another location.
- The folder can then be pasted in the Sample window of another opened .GIG file.

Paste: [Ctrl] + [V] Keyboard Shortcut

Once you Cut or Copy a Folder, this command will Paste it in the Sample window of another opened .GIG file.

Delete folder: [Delete] Key

This will delete the Folder from the Sample Window. You will get a prompt asking if you really want to delete it. Choose [Yes] to delete it or [No] if you change your mind.

Deleting Mapped Samples:

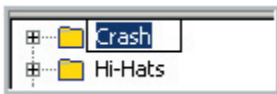
A warning will appear when you begin to delete a sample that is referenced by one or more keyboard regions. Those regions will be “unmapped” without a reference to any sample after the deletion.

The warning dialog tells you the location of the first region it finds linked to the sample you’re deleting, and asks you whether you want to precede. There are four options:

- **Yes:** Proceed but issue more warnings if there are other regions mapped to this sample.
- **Yes to all:** Delete the sample and ignore any other regions mapped to it.
- **No:** Cancel the operation
- **Go to region:** Cancel the operation and highlight the region mentioned in the warning.

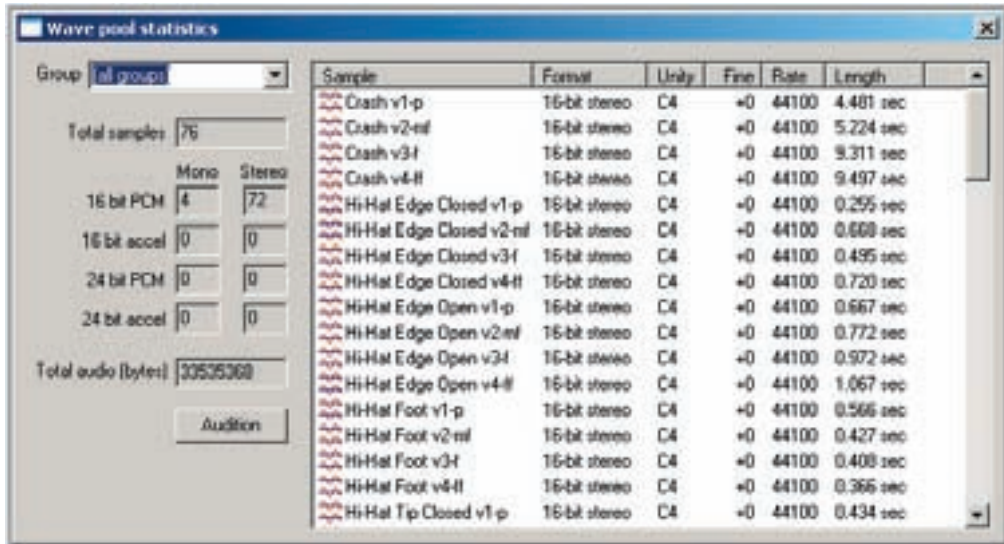
Rename Folder:

Use this command to rename the selected folder. This will highlight the folder name so that a new name can be typed in.

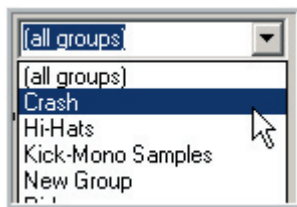


Wave Pool Statistics:

Clicking on this will bring up the Wave Pool Statistics window. This window allows you to get an overview of all the samples in the .GIG file.

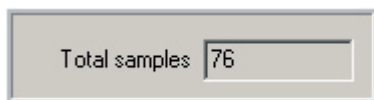


Group:



The Group dropdown list allows you to display the samples of any folder or all the samples at once in the sample list.

Total Samples:



This is the total number of samples in the .GIG file or the selected group depending on what is selected from the Group dropdown menu.

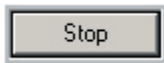
Sample Statistics:

	Mono	Stereo
16 bit PCM	<input type="text" value="4"/>	<input type="text" value="72"/>
16 bit accel	<input type="text" value="0"/>	<input type="text" value="0"/>
24 bit PCM	<input type="text" value="0"/>	<input type="text" value="0"/>
24 bit accel	<input type="text" value="0"/>	<input type="text" value="0"/>
Total audio (bytes)	<input type="text" value="33535368"/>	

These statistics are for the selected folder or for the whole .GIG file depending on what is selected from the Group dropdown menu.



Select a sample from the list and then click on the [Audition] button to hear it.



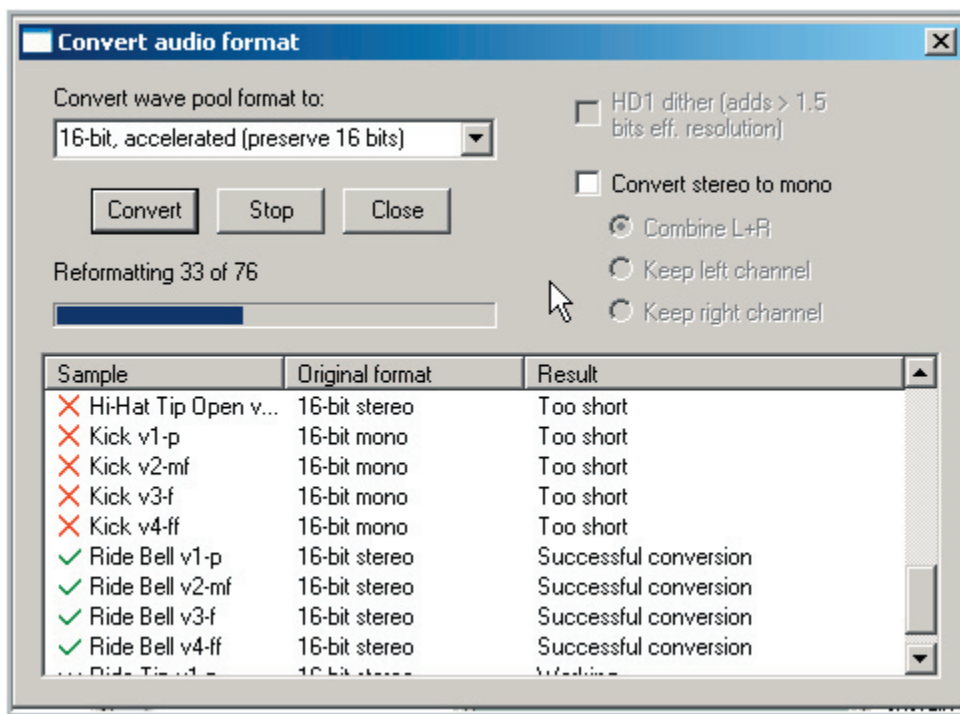
Click on the [Stop] button to cut the sample off. This is handy if you audition a real long sample.

In the Sample list, you can sort the visible samples by Name, Format, Unity Note, Fine Tune, Sample Rate or Length. Click on one of the tabs to sort the samples.

Sample	Format	Unity	Fine	Rate	Length
Crash v1-p	16-bit stereo	C4	+0	44100	4.481 sec
Crash v2-mf	16-bit stereo	C4	+0	44100	5.224 sec
Crash v3-f	16-bit stereo	C4	+0	44100	9.311 sec
Crash v4-ff	16-bit stereo	C4	+0	44100	9.497 sec
Hi-Hat Edge Closed v1-p	16-bit stereo	C4	+0	44100	0.255 sec
Hi-Hat Edge Closed v2-mf	16-bit stereo	C4	+0	44100	0.668 sec
Hi-Hat Edge Closed v3-f	16-bit stereo	C4	+0	44100	0.495 sec

Convert Wave Pool Format:

- This tool is where you convert the bit rate and apply Disk Acceleration compression to all the samples in the .GIG file. You can also convert the whole file to Mono.
- This allows a developer to easily generate 24 and 16 bit versions of the library in both mono and stereo.
- This interface is covered in detail in the Edit Menu section.



Sort by Pitch:

This will sort the samples by their pitch based on the assigned unity note.

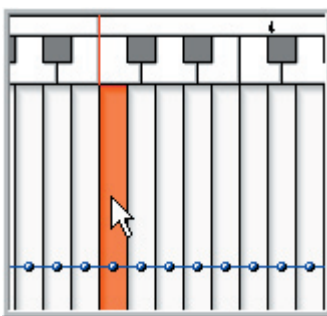
Sort by Name:

This will sort the samples by their name.

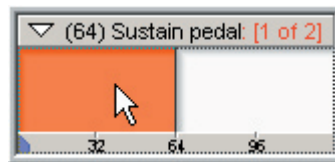
Jump to Selected Regions:

This has to be hands down one of the nicest features in the editor. The editor will now highlight the samples in the Sample Window whenever you make a selection while editing.

To show how helpful this feature is, imagine you want to edit the sample assigned to the middle velocity of middle C, Pedal Down on a Piano. In the past you would have to hunt and peck through the Sample Window folders to find it. If the sample folders & names are not organized or obvious, this could make it very difficult to find a specific sample.

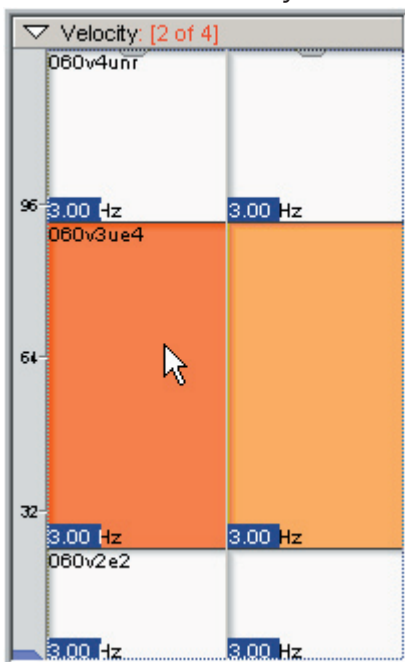


However, with “Jump to Selected Regions” enabled, all you have to do is select the C-4 Region.

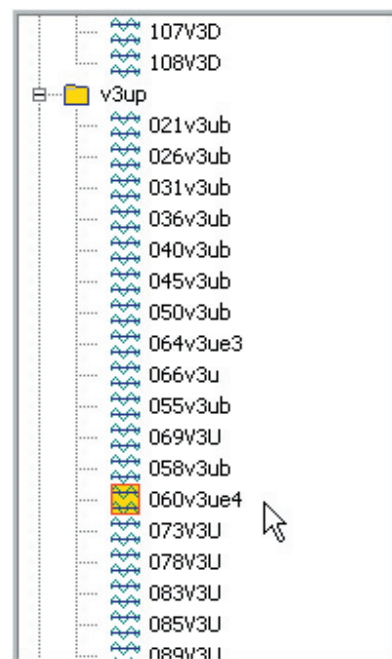


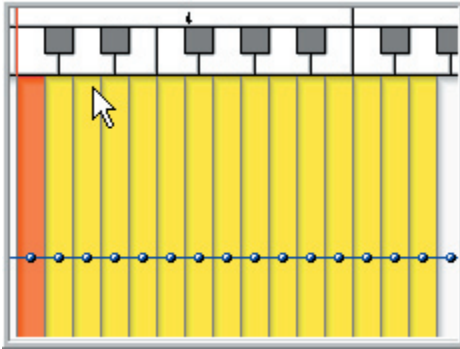
Select the Pedal Down Dimension.

Select the Middle Velocity.



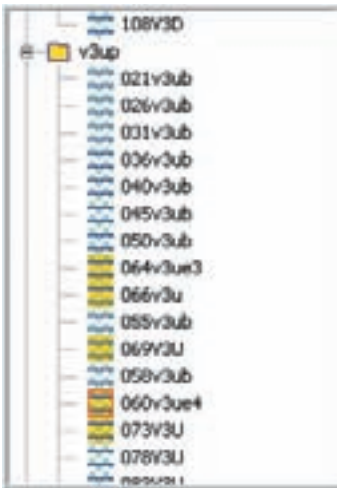
The sample then lights up.





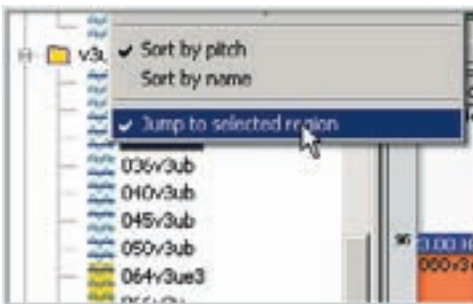
If you select several regions or several dimensions, all the samples used will highlight in the Sample Window.

All the regions are highlighted yellow while the most recently selected region (C-4) is orange.



Notice that all the samples are highlighted in yellow but one of them also has an orange border around it.

This orange border represents the most recently selected dimension. In this case that is C-4.



Enable this feature by [right-clicking] in the Sample Window and choosing "Jump to Selected Region"

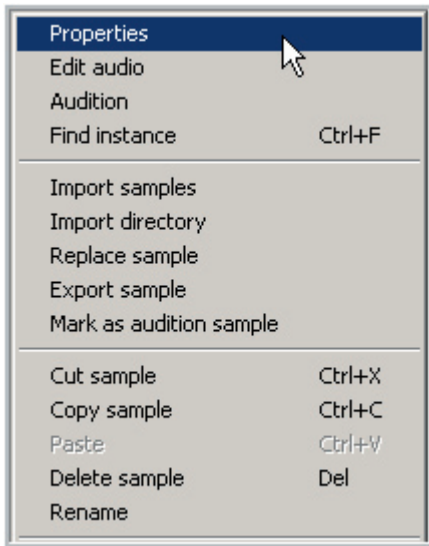


Also, when you have the MIDI Select feature enabled, the samples will also highlight as you play them in real time.

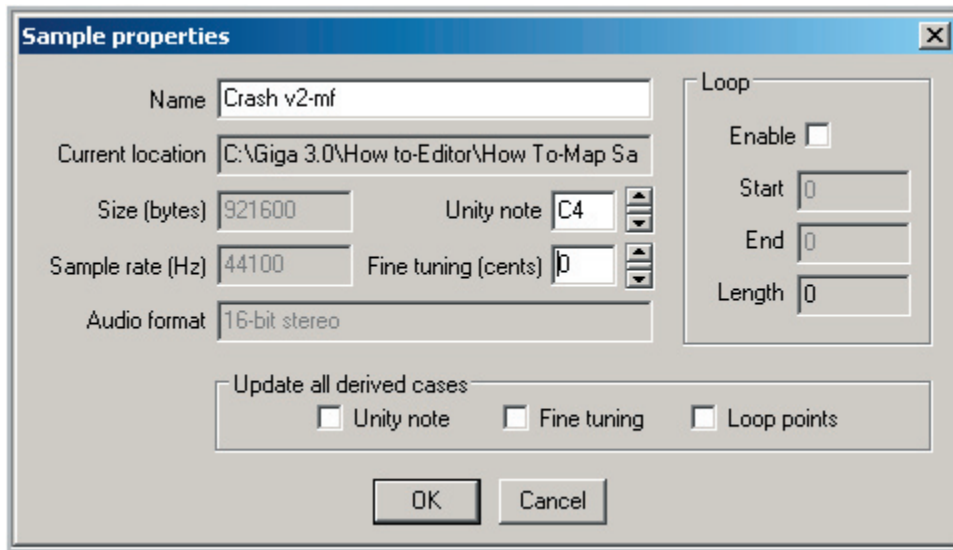
You can then find samples really fast by just playing the MIDI keyboard and manipulating MIDI controllers.

Sample Context Menu:

[Right-click] on a sample to bring up the Sample “Context Menu”



Sample Properties Window:



Name:

The Sample Name appears in this field. It can also be renamed here.

Current location:

This shows the actual location of the sample file on the hard drive or to which .GIG file it is a part of.

Size (bytes):

Displays the size of the sample in bytes.

Sample rate (Hz):

Displays the Sample Rate of the sample in Hz.

Audio format:

The recorded bit depth of the selected sample as well as mono/stereo designation.

Unity note:

- The assigned unity note of the selected sample. This value can also be changed here by entering a new note or scrolling the spinner to the right.
- Any change made to the Unity note here will affect any regions and splits that reference this sample.

Fine tuning (cents):

- The assigned Fine-tuning value of the selected sample. This value can be adjusted here.
- Any change made to the Fine-tuning here will affect any regions and splits that reference this sample.

Loop Information:

Enable checkbox: This toggles the loop function of the selected sample(s) on/off.

Start: The number of samples at which the loop begins.

End: The number of samples at which the loop ends.

Length: Total number of samples making up the entire loop region.

Although you can adjust the loop information here, this box is better used for display purposes. We recommend adjusting loop points in an audio editor for more precise control with real-time playback.

Update all derived cases:

Unity note: Updates the Unity note of all the regions that reference the current sample.

Fine-tuning: Updates the Fine-tuning of all the regions that reference the current sample.

Loop points: Updates the Loop settings of all the regions that reference the current sample.

These checkboxes allow you to override the settings in the .GIG file with the ones here in the properties page. For example, if you repair a bad loop in an audio editor, you can update all the regions with the fixed loop.

Edit Audio:

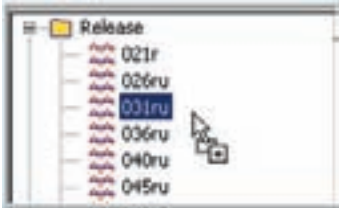
This command will launch the audio editor so that you can edit the sample. The audio editor needs to be selected in the Edit/Preferences page.

Audition Sample:

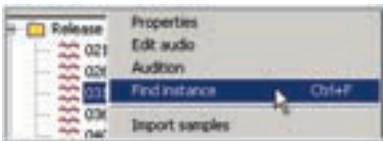
Plays the selected sample.

Find Instance: [Ctrl] + [F]

Locates where the selected sample is mapped out. If the sample is mapped to more than one location, this will change to “Find next instance”

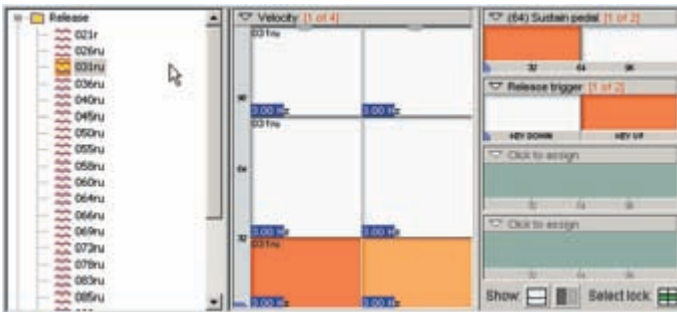


Choose a sample in the Sample window and [right-click] on it.



Select “Find Instance” from the menu that comes up.

The exact region, velocity and dimension split that this sample is assigned to will be selected in the Editor.

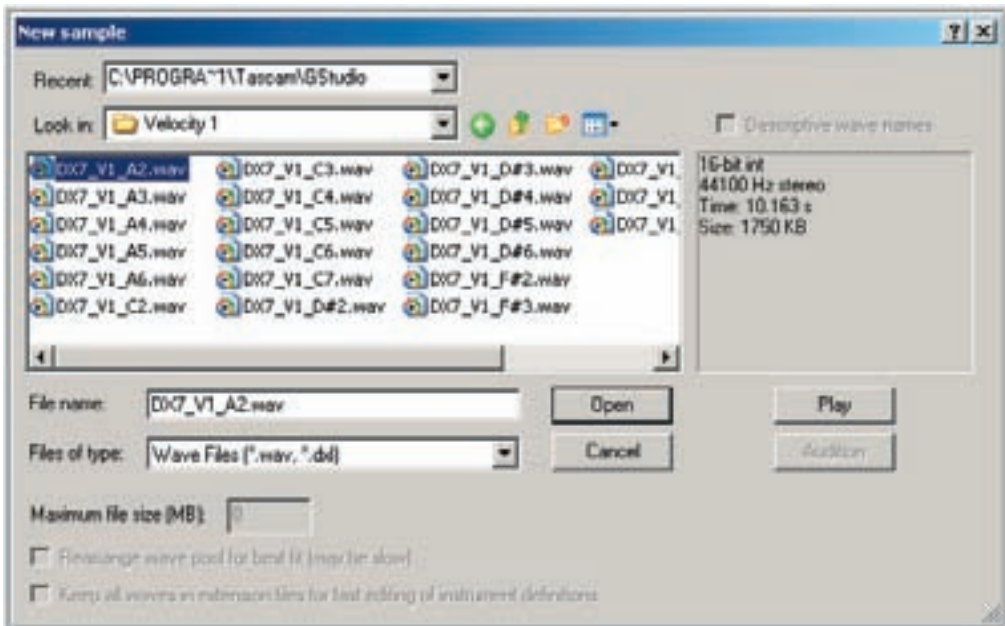


Repeat this to find the next instance if the sample is used more than once.

Import Samples:

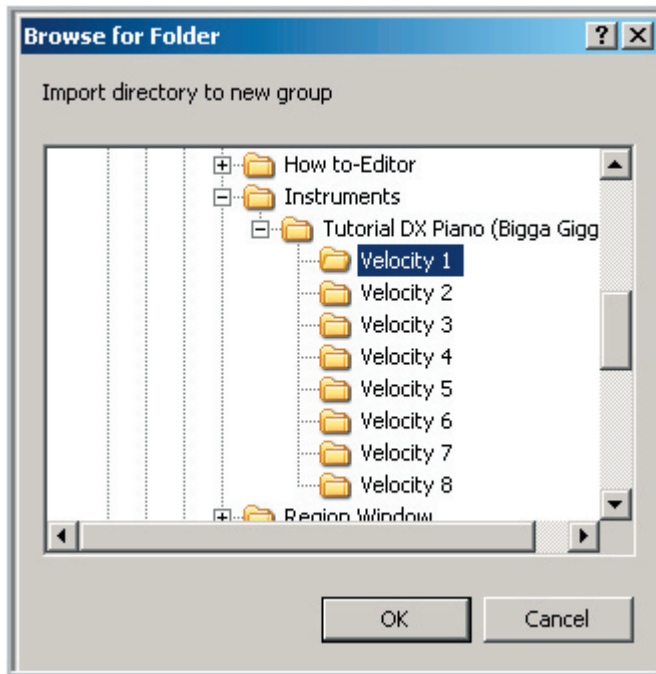
Selecting this option will bring up the browsing window below:

- Use this window to find and select which samples to import.
- The samples will be imported into the folder you [right-clicked] on to bring up this context menu.
- Use [shift]-select or [ctrl]-select to select multiple samples.
- When you click on a sample, you can see the file details in the window on the right. You can also play any selected sample by clicking on the [Play] button.
- Click on [Open] to import the samples into the Editor.



Import Directory:

- This command lets you import an entire folder of samples.
- Use this window to find sample folders.
- Only one folder at a time can be imported this way.



Alternatively, you can simply [drag & drop] a folder from the desktop into the Sample Window. This method allows you to import multiple folders at once.

Replace Sample:

To replace an existing sample, use this dialog to select the new sample.

Export Sample:

This command will export the selected sample to the hard drive as a wave file. You will need to choose a folder to put the sample into.

Mark as Audition Sample:

This is a new feature that allows you to select a specific sample to be the audition sample. This can be a quick demo or even an audio tutorial specific to the .GIG file. From the GigaStudio interface, Audition Samples can then be played from the Loader before loading the instrument to hear what the instrument will sound like.

The Audition sample will have a tiny letter “A” next to the sample in the folder.



Cut Sample:

- This will Delete the selected sample and put it into the clipboard so that it can be pasted to another location.
- The sample can then be pasted to another folder in the current .GIG file or in another opened .GIG file.

Copy Sample:

- This will Copy the selected Sample without deleting it and put it into the clipboard so that it can be pasted to another location.
- The Sample can then be pasted to another folder in the current .GIG file or in another opened .GIG file.

Paste:

Once you Cut or Copy a Sample, this command will Paste it in to another location.

Delete Sample:

This will delete the Sample from the Folder. You will get a prompt asking if you really want to delete it. Choose [Yes] to delete it or [No] if you change your mind.

Deleting Mapped Samples:

A warning will appear when you begin to delete a sample that is referenced by one or more keyboard regions. Those regions will be “unmapped” without a reference to any sample after the deletion.

The warning dialog tells you the location of the first region it finds linked to the sample you’re deleting, and asks you whether you want to proceed. There are four options:

Yes: Proceed but issue more warnings if there are other regions mapped to this sample.

Yes to all: Delete the sample and ignore any other regions mapped to it.

No: Cancel the operation

Go to region: Cancel the operation and highlight the region mentioned in the warning.

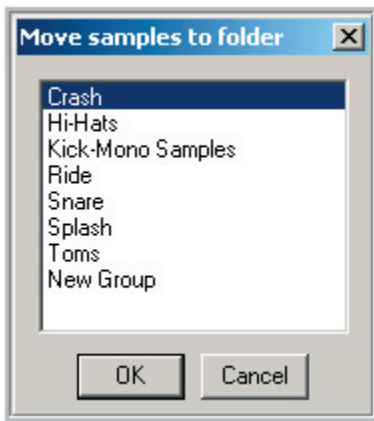
Rename:

Use this command to rename the selected sample. This will highlight the sample name so that a new name can be typed in.

Move Sample to Folder:

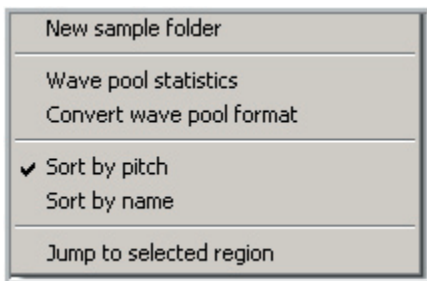
Here we can move the selected sample to another folder.

In the Move samples to folder window, choose a different folder and click [OK] to move the sample.



Alternatively, you can [drag & drop] samples from one folder to another.

Common Menu Items:



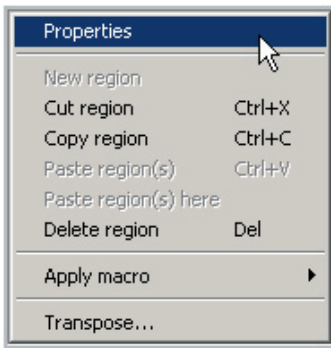
These are the same commands as found in the Folder Context Menu. They are described earlier in that section.

Region Window



Region Menu:

[Right-click] on a Region and you will be presented with the following context menu:
From here you can get to several region parameters & settings.



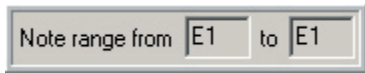
Properties:

Click on "Properties" in the Region menu to bring up the Region Properties window.



Shortcut: You can also [double-click] on a region to bring this screen up.

Note Range:



Displays the note range of the selected region. This setting is not adjustable here. To modify the note range you stretch the region graphically in the Region window.

Key group:

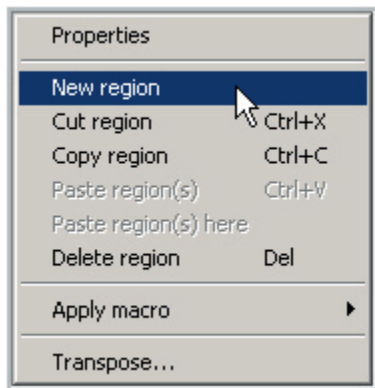


This is an advanced Hi-Hat mode feature. The key group feature will allow regions assigned to the same Key group to turn each other off. You can have several key groups in an instrument. (Up to 127)

This can also be used to create a monophonic mode instrument by setting all the regions to the same group other than zero.

Key group zero is the default setting and has no effect. Regions set to zero will not be cut off by each other or by regions on other key groups.

New region:

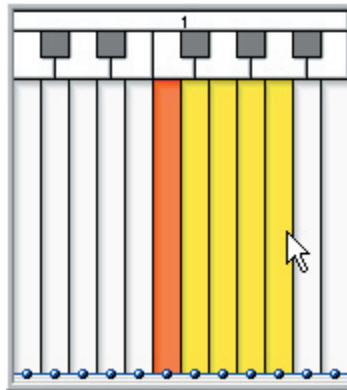
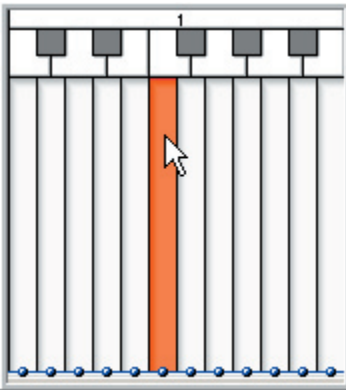


This option will be grayed out when [right-clicking] an existing note region. However, by [right-clicking] on any gray area of the region map, the “New region” option will be available.

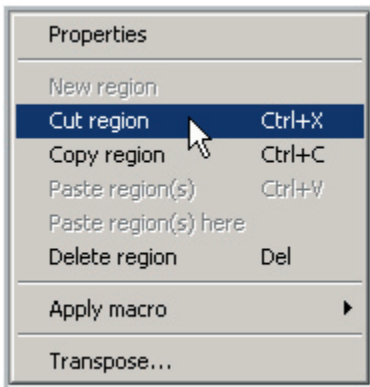
Selecting this will create a single note region under the note where you [right-click]. To move the region to a different location simply click on the region and drag it to the new location.

Cut-Copy & Paste Regions:

Select a region or group of regions and [right-click] on them and choose “Cut or Copy or Delete” from the context menu.

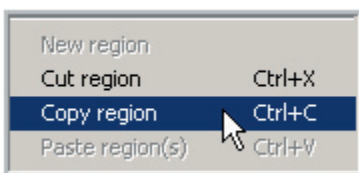


Cut region(s):



This will remove the region(s) from the current instrument and place it in the clipboard for pasting to an empty location on the region window or to another instrument region window.

Copy region(s):



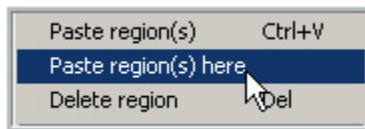
This will copy the region in the current instrument without deleting it and place it in the clipboard for pasting to an empty location on the region window or to another instrument region window.

Paste region(s):



- This option will paste the cut or copied region or group of regions from the clipboard.
- If you are pasting to another instrument, it will try to put the regions on the same note range as they came from.
- If these note ranges are occupied, then the regions will be placed on the closest empty note ranges.
- When pasting to the same instrument that the regions were copied from, the regions will also be placed on the closest empty note ranges.

Paste region(s) here:



- This option allows you to determine where the copied regions will be placed on Region Window.
- [Right-click] under the note where you want the regions to go and choose “Paste regions(s) here”
- The region or group of regions will be placed starting on that note.

Delete region:



This will remove a selected note region or regions from the current instrument without placing them in the clipboard.

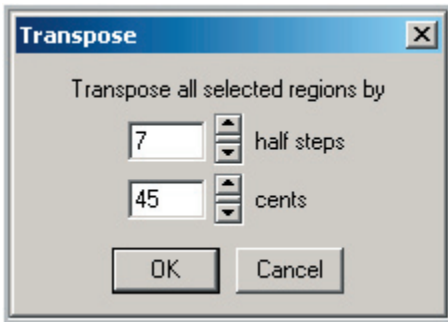
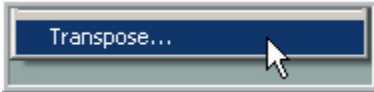
You will be presented with a dialog asking if you are sure. Choose [Yes] to delete the region.

Apply macro:



Use this function to perform complex and repetitive editing commands to one or more selected regions. This command will apply the selected Macro to the region or group of regions that are selected and to any of the dimensions and velocity splits that are selected. See the Macros section for more information about creating Macros of your own. “09-09 Macros”

Transpose:



This will transpose the selected region(s) by half steps and cents.

Make a selection and click on [OK] to apply the changes.

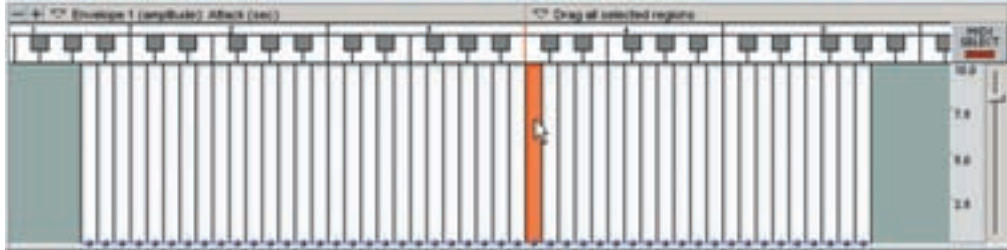
This accomplishes the exact same thing as changing the unity note and the fine tune setting but can be a lot easier than calculating the unity notes and fine tune number offsets. Also, these settings reset to zero each time they are applied so that you are always transposing and fine tuning from where you left off.

Range is 127+/- Half Steps and 50+/- Cents:

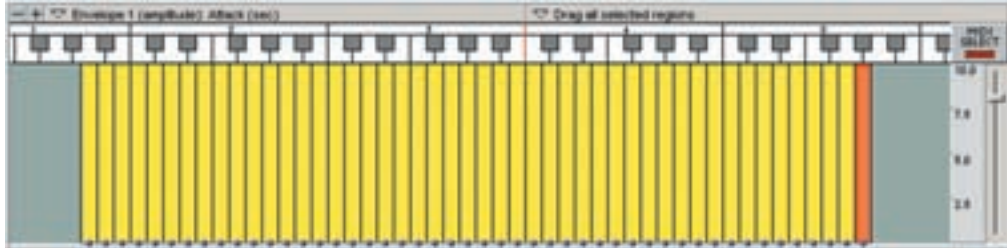
Selecting Regions:

You can select regions several ways:

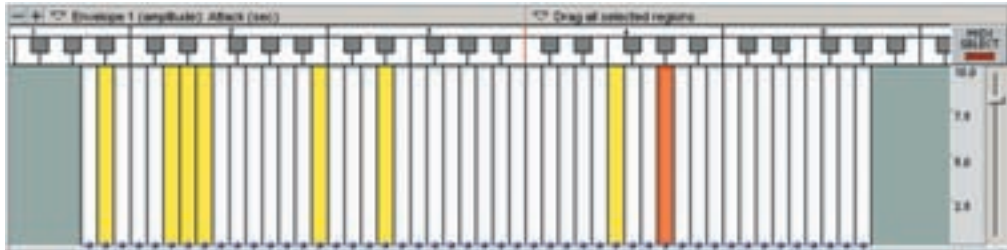
One note region selected:



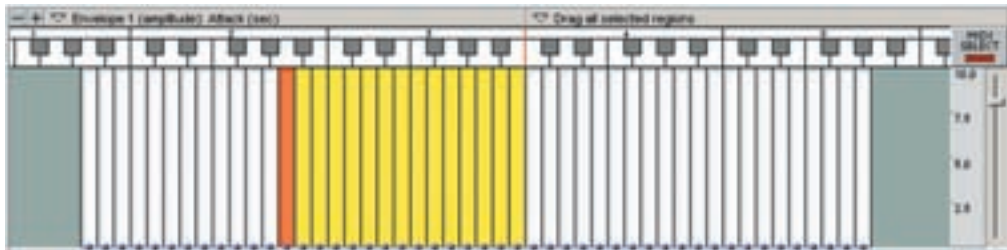
All regions drag-selected:



Control select of individual regions:

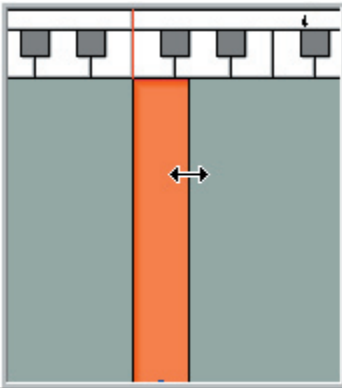


Shift-select several regions in the middle:



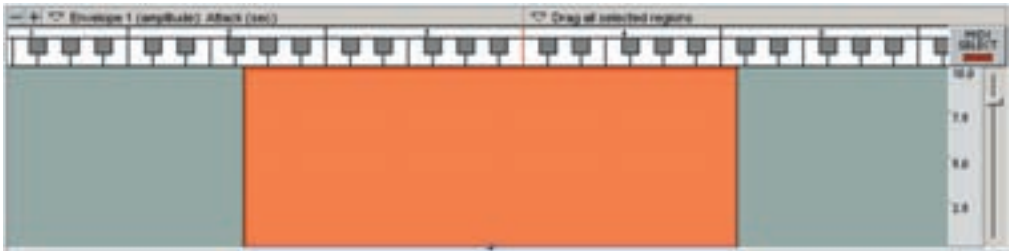
Note: Drag-selecting only works when you start from a blank space with no region on it. To select several consecutive regions that are surrounded by other regions, select one region and shift-select another region and all the regions in between will be selected. Otherwise you will end up moving one region instead of selecting several.

Stretching & Moving Regions:

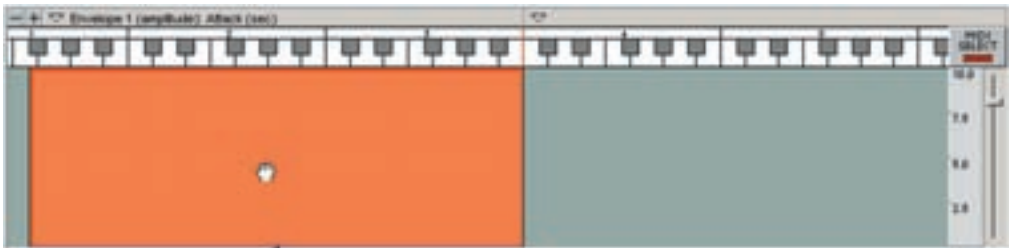


Regions are stretched by grabbing the left or right edge and dragging with the mouse.

By stretching a single chromatic note region both right (upward) and left (downward) in range it is possible to cover several octaves with a single region.



A region can be moved to a different area of the keyboard by clicking in the middle area of the region and dragging left or right.



Region Cut/Copy/Paste

[Right-click] on a region to bring up the Cut, Copy, and Paste settings.

You can Cut, Copy, or Paste regions within the same instrument or between instruments. When you Paste, the regions will attempt to place themselves on the same key range they were copied or cut from. If there are regions occupying this range already, they will map to the next available key ranges to the right (upward).

Paste Region(s) Here:

You can also manually choose where to paste the region. Place the cursor in the area under the note range where you wish to paste the region(s).

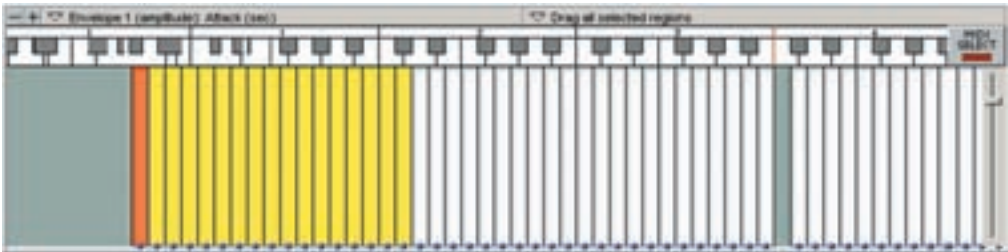
Deleting Regions:

Deleting one or more regions. To delete a region (or several that are selected) select Delete region from the context menu or use the “delete” key and the region(s) will be removed from the instrument without being placed into the clipboard.

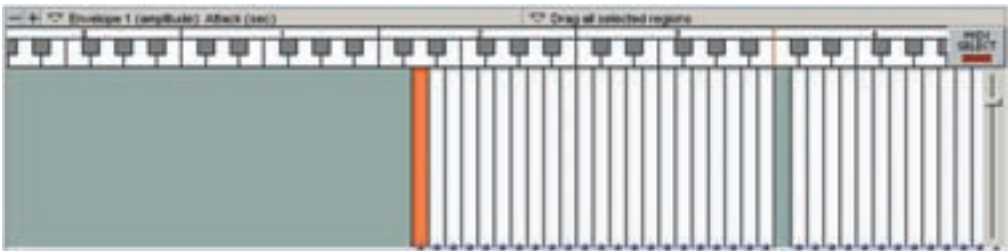
One Region Deleted:



Several Regions Selected: hold down [Shift] +[select]



Several Regions now Deleted:

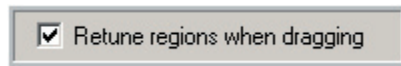


Moving Regions

If you ever wanted to do something as simple as bring several notes down an octave without changing the pitch, you would normally have to change the note range and pitch of each note one at a time. There is a quick and easy way to do this in the region map. You simply drag the regions where you want them to go.

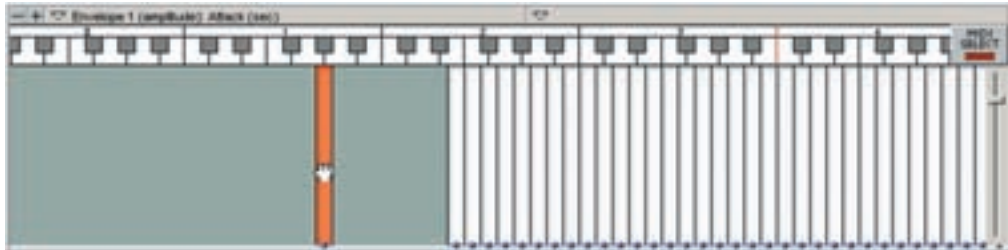
Note: First you must setup the retuning mode in the Edit/Preferences dialog from the Edit menu. Check the box “Retune regions when dragging” before you move any regions if you wish to preserve the pitch of each note. Otherwise each note will be stretched in pitch according to their ‘Unity note’ and ‘Pitch tracking’ settings.

Check ‘Retune regions when dragging’ to preserve pitch:

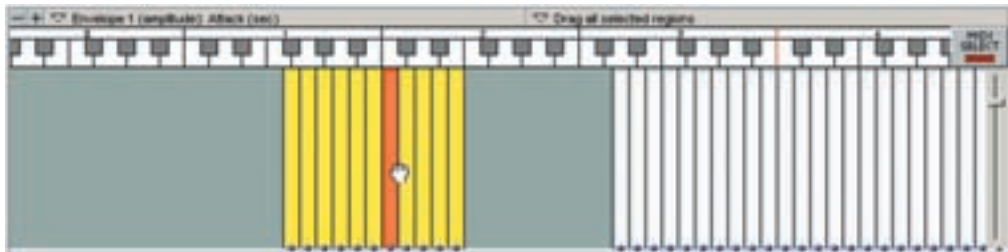


You can drag one region at a time or several regions at once. Just grab the region you want to move by its middle and drag it anywhere on the region map. If you grab one side or the other, you will stretch the region instead of dragging it so be careful.

Move a single region:

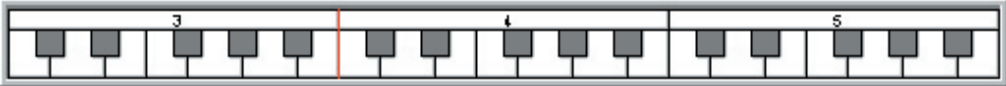


Move several regions at once:

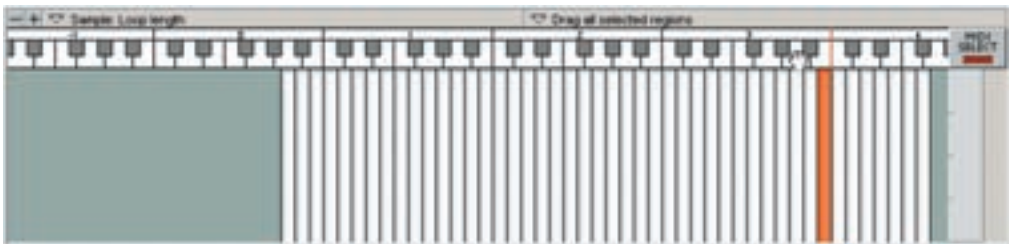
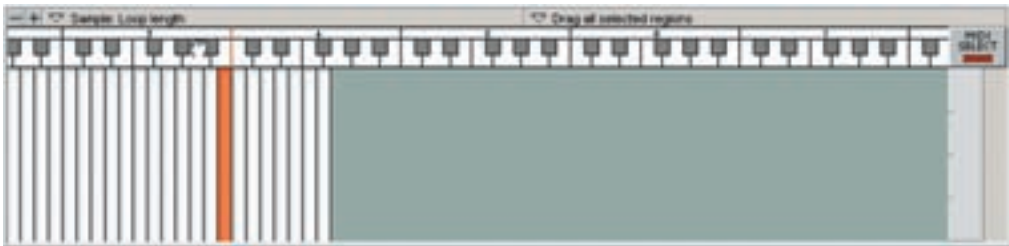


Region Keyboard Display:

On the keyboard display, Middle C has a red line along its left border. The octave numbers are centered above the virtual keyboard display.



This keyboard can be dragged left and right across the screen with the mouse to bring note regions into view from either side of the region map.



When notes are triggered from a MIDI controller or sequencer the notes played they are displayed on this keyboard by changing to blue.

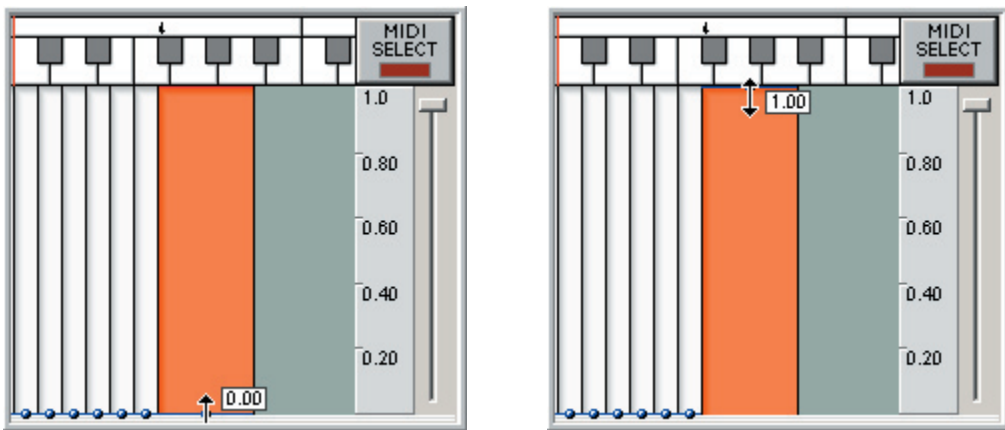


Region Scale Resolution

You can adjust the scale of the Drag Tool Menu editing dots. Many of the parameters edited with the drag tools have fine tuning amounts that can be unwieldy to access graphically. This is where the Scale Resolution comes in handy because you can zoom the resolution in and out as needed. If the selected parameter does not have fine tuning settings, this feature is disabled.

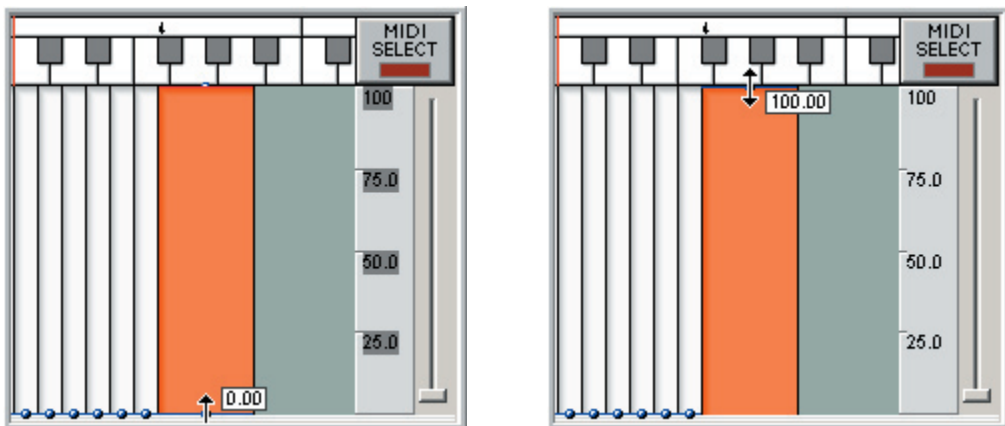
Moving the slider Up increases the resolution:

In this example, the value range is 0.00-1.00 for very fine-tuning.



Moving the slider Down decreases the resolution:

Now the value range is 0.00-100.00 for coarser editing.

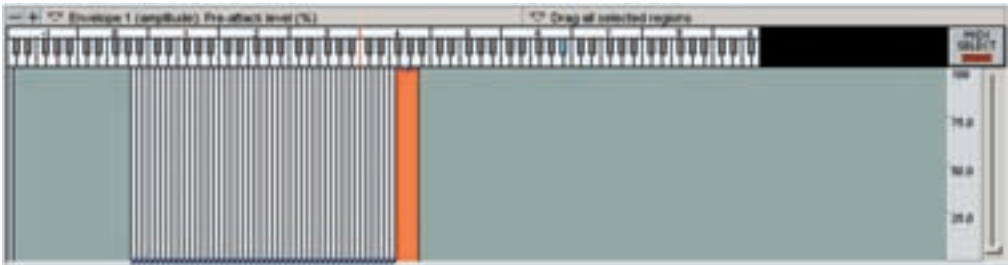


Region Zoom Buttons:

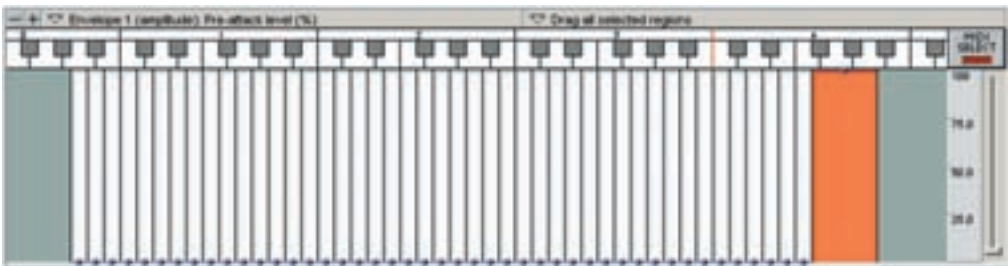


Use these buttons to zoom the region window view in and out:

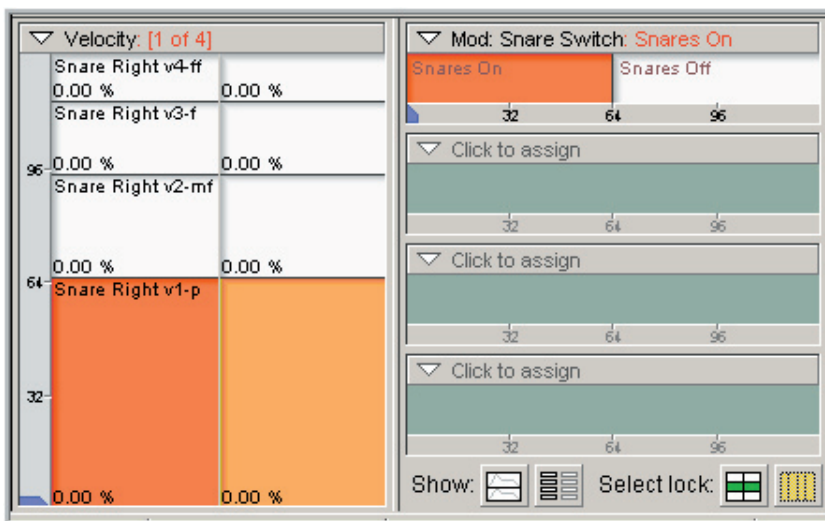
Region Map Zoomed Out:



Region Map Zoomed In:



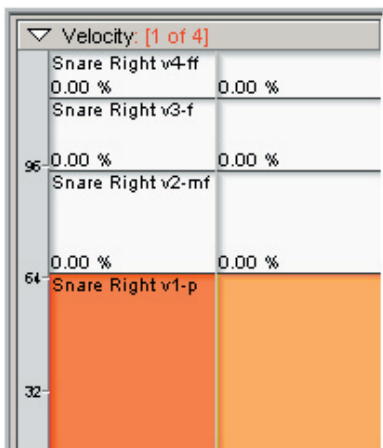
The Dimension Window



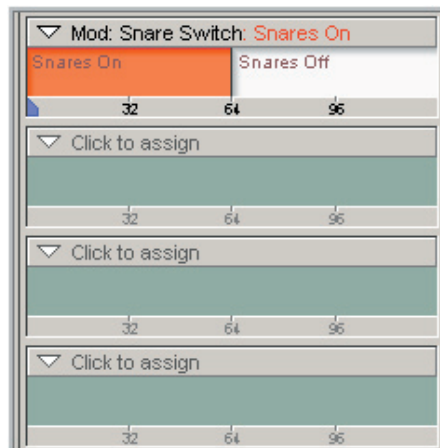
The Dimension Window is where you setup all the various types of dimension splits.

There are three main areas in the Dimension Window.

The Velocity Map:



The Dimensions Switches:

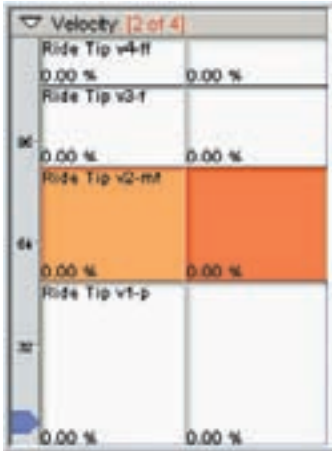


The Display and Selection Buttons:



The Velocity Map:

The Velocity Map accomplishes several things at once:

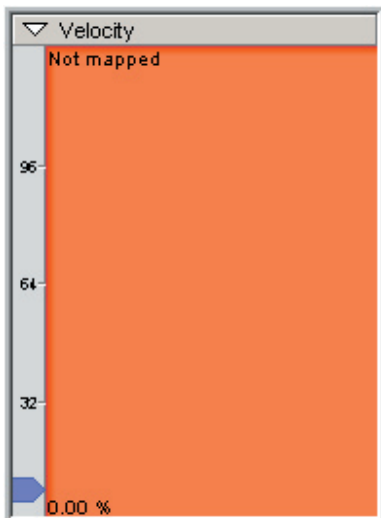


- Samples are mapped here and sample names are displayed here.
- The Stereo-Mono status is set and displayed here.
- The amount of Velocity Splits is set and displayed here.
- Various Parameters settings and visuals are displayed here.
- [Right-clicking] here brings up a context menu with several editing tasks.

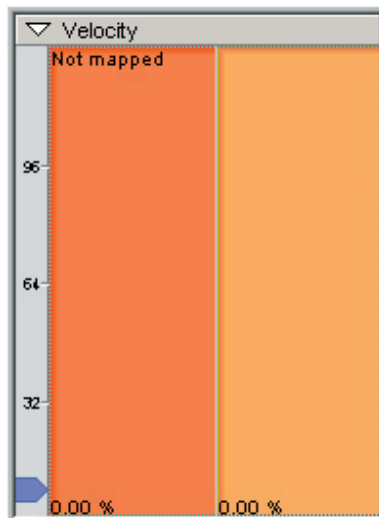
Mono-Stereo Settings:

- A single vertical divider line down the middle of the Velocity Map displays the Stereo & Mono status.
- The divider line indicates a stereo region.
- The lack of a divider line indicates a mono region.

Mono with no velocity splits:



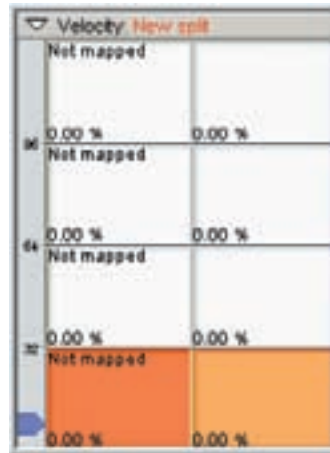
Stereo with no velocity splits:



Mono with 4 velocity splits:

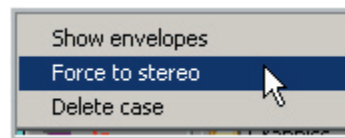
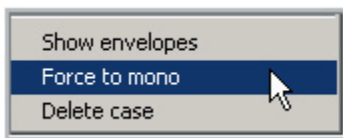


Stereo with 4 velocity splits:

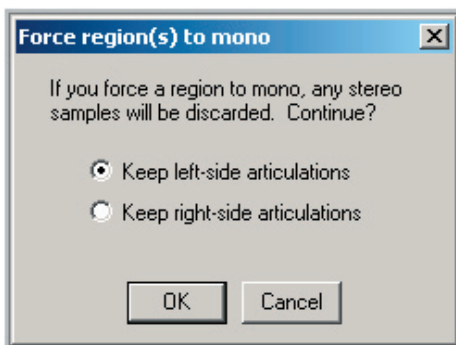


Assigning a Mono sample to the Velocity Map will automatically put it in Mono mode. Assigning a Stereo sample to the Velocity Map will automatically put it in Stereo mode.

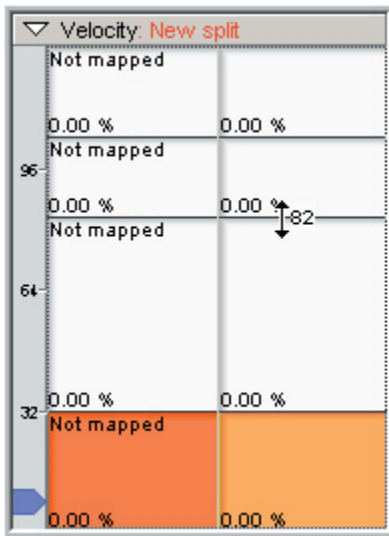
You can also manually change the Stereo or Mono status by [right-clicking] on the Velocity Map and choosing "Force to Mono" or "Force to Stereo" in the context menu.



- When going from Stereo to Mono, the dialog window will give you the option of which side to keep.
- When going from Mono to Stereo, these choices are not available.
- Click on [OK] to apply the change.



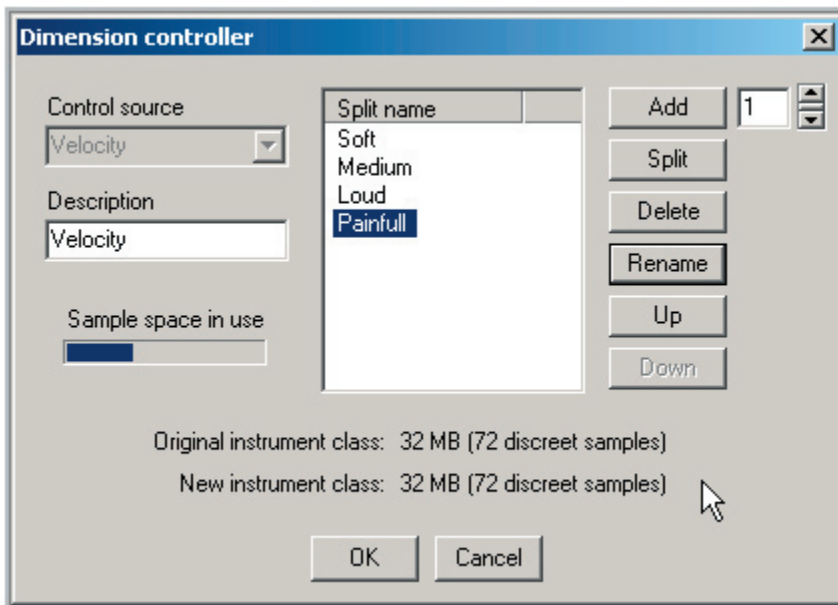
Velocity Split Points:



Velocity Split points are displayed by horizontal divider lines.

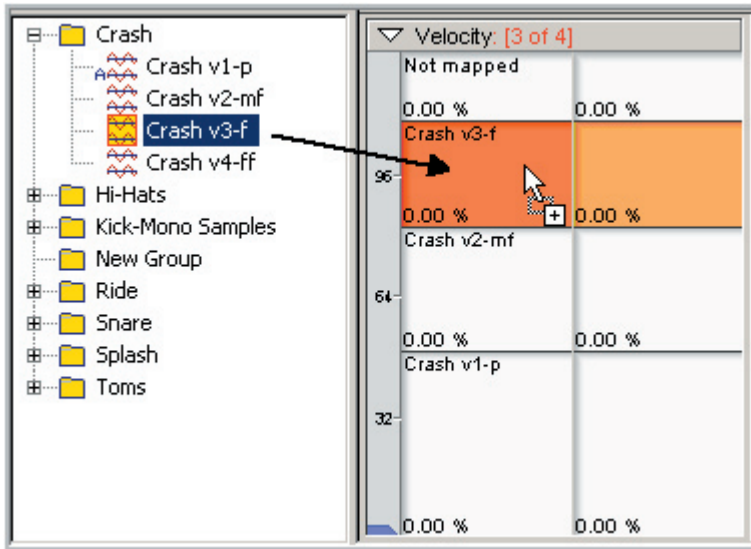
These are adjustable by dragging them with the mouse.

Velocity Splits are created and named in the Dimension Controller Window. The Velocity Split order can also be changed here as well.



Assigning Samples:

Samples are assigned by dragging them from the Sample Window to a Velocity Split in the Velocity Map.



Dragging with the Left Mouse button enables pitch tracking.



Dragging with the Right Mouse button disables pitch tracking.



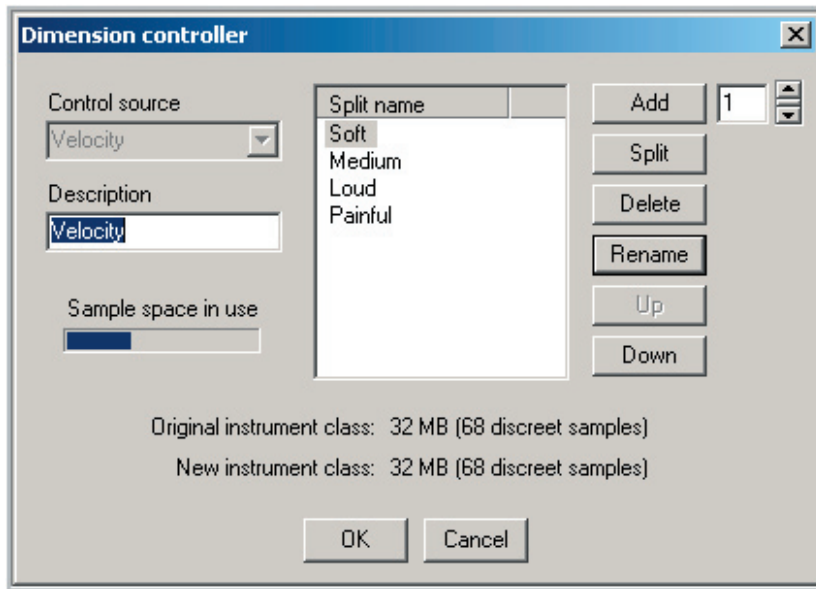
If you make a mistake and use the wrong button you can either drag the sample again or go to the Mix/Layer section of the Edit Parameters window and correct it there.

Dimension Controller Window:



Click on the Velocity Map [Toolbar] to open the Dimension Controller Window.

This is where you create, delete, rename and reorder velocity splits.



Control Source:

The Control Source is Velocity so this option is disabled. In the Dimension Split resource window, you will be able to set it to a variety of MIDI controllers or rules.

Description:

This is also disabled for Velocity Splits. You can enter a description but it will not show up in the Velocity Map. This is another feature specific to the Dimension Splits.

Sample Space in Use:

This indicator helps you keep up with the amount of dimension resources available. The meter fills up as you use up more dimensions.

Split Names:

This window is where you select the various splits for deleting, reordering and renaming.

Add Splits:

Click the [Add] button to add more Velocity Splits. It will add the amount of splits that are entered in the numerical entry field to the right.

Delete:

Select a split or group of splits and click on [Delete] to remove them.

Rename:

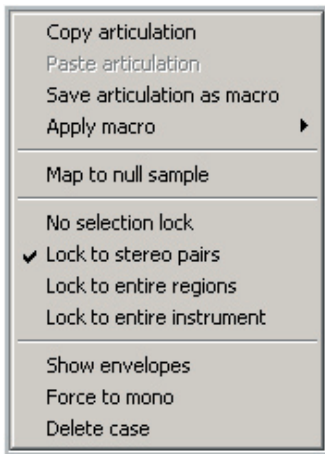
Select a Split and click the [Rename] button to enter a new custom name. It is very important to label the various splits and descriptions to keep everything organized and intelligible. These names show up in the Velocity Split Toolbar when different splits are selected.

Move Splits Up & Down:

Select a split and click the [Up or Down] buttons to change its order.

The Context Menu:

[Right-click] on the Velocity Map to bring up the context menu.



Copy Articulation:

This command copies all the parameter settings of the current dimension split so that they can be pasted to another region or dimension split.

Paste Articulation:

This command pastes the copied articulation to the selected region or dimension split.

Save Articulation as Macro:

This will save all the parameter settings to a macro so that it can be reused at a later time on other regions, dimensions or even other instruments. See the chapter on Macros for details on working with Macros.

Apply Macro:

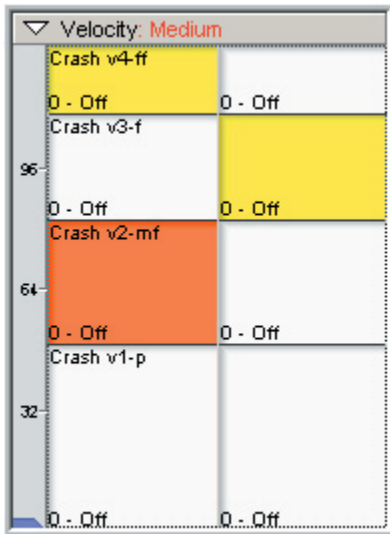
This will apply any available macro to the selected split. See the chapter on Macros for details on working with Macros.

Map to Null Samples:

This will clear any samples that are mapped to the selected split and set it to “Un-mapped”

The Context Menu Continued:

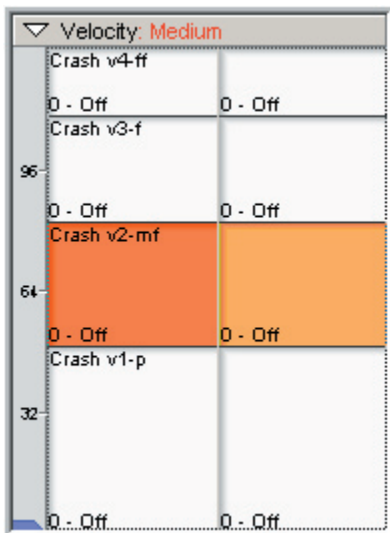
No Selection Lock:



Allows you to select individual left or right dimension splits.

This is also available by clicking on the [Lock Selection] Button.

Lock to Stereo Pairs:

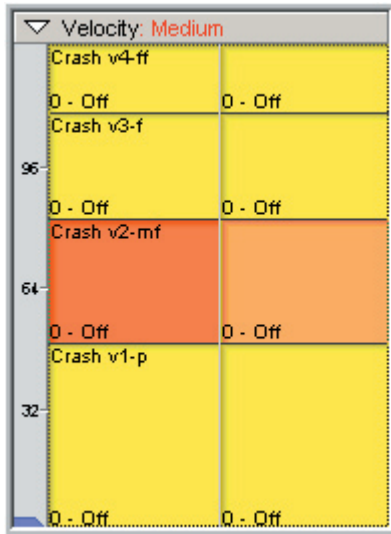


Locks the mouse selection to stereo pairs.

This is also available by clicking on the [Lock Selection] Button.

The Context Menu Continued:

Lock to Entire Regions:



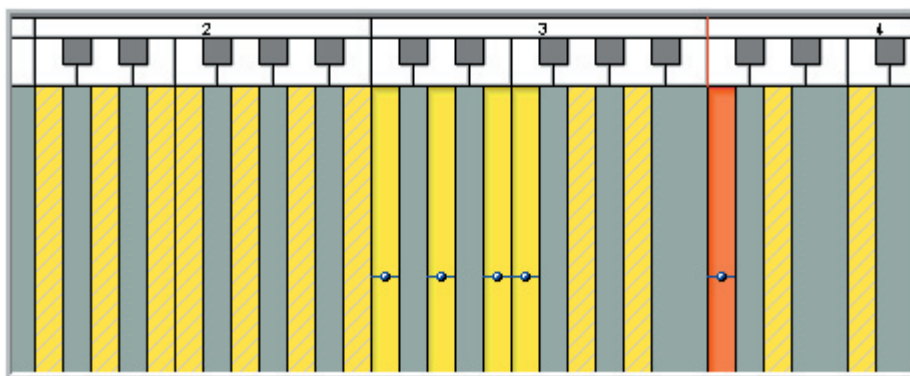
Locks the mouse selection to the entire region including all the velocity and dimension splits.

This is also available by clicking on the [Lock Selection] Button.

Lock to Entire Instrument:

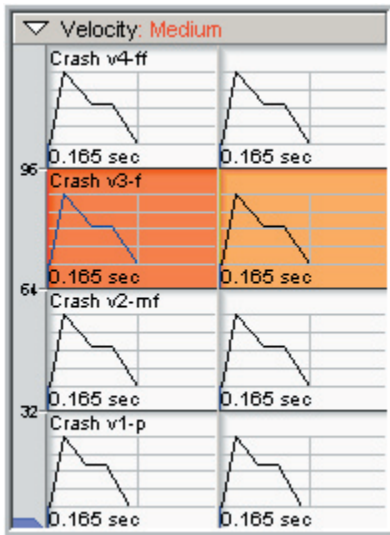


Locks the region selection to the whole instrument at once. All the regions will be highlighted and any editing will affect the whole instrument at once.



The Context Menu Continued:

Show Envelopes (& Parameters):



Displays various edit parameters and ADSR envelopes graphically on the Velocity Split dimensions.

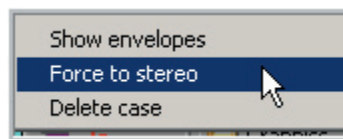
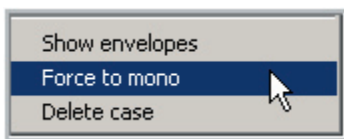
This can also be toggled on & off with the [Show Envelopes] button.

The graphic depends on what parameter is being edited.

In this case, the ADSR envelope is being displayed. The graphic will update in real time as you make changes.

Force to Stereo/Mono:

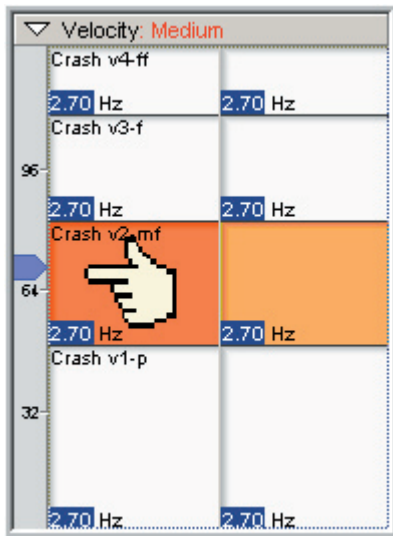
You can also manually change the Stereo or Mono status by [right-clicking] on the Velocity Map and choosing "Force to Mono" or "Force to Stereo" in the context menu.



Delete Case:

This deletes the currently selected velocity split dimension. This is the same as deleting a split in the Dimension Controller window.

Playback Velocity Level Pointer:



You can see the incoming MIDI Velocity level with this pointer.

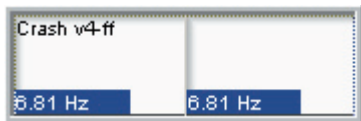
This will help to see what velocity split is playing as you edit.

This pointer also selects the velocity split it is pointing to in real time.

Tall Velocity Window:

Select this option from the View Menu to raise the height of the Velocity Map to the top of the screen. This will make it more convenient to deal with a large number of velocity splits.

Parameter Meters:



The bottom part of the Velocity Map always displays the setting of whatever parameter is being edited at any time. It gives a numerical and graphical bar display.

Dimension Switches:

This is where the various Dimension Switches are created. Dimensions allow various MIDI controllers or rules to instantly change between different samples. Here are the basic types of dimensions.

Stereo Split-This is the first and most basic of Dimensions. There is no MIDI control of this dimension. It is either Mono or Stereo. This part of the Velocity Map.

Velocity Splits-The speed at which you hit the keyboard determines which sample is triggered. This is most often used to for samples of instruments actually playing from soft to loud. Acoustic instruments tend to get brighter and more aggressive as they get louder so having samples recorded ranging from loud to soft makes for a much more convincing instrument. This is part of the Velocity Map.

Sustain Pedal-The MIDI Sustain Pedal switches back and forth between samples. This is most often used for piano libraries that have actual pedal up & down samples or to open and close hi-hats.

Mod Wheel & Other MIDI Controllers-This allows the Mod Wheel and most other MIDI continuous controllers to switch between various samples. A good example would be using the Mod Wheel to switch from closed to open hi-hats.

Layers-You can have several samples layered on top of each other playing together at once. You can even have individual MIDI control of the volume of each layer or have a MIDI controller sweep between the layers. (Cross-Fade Layering)

Key-Switch-This original Giga invention allows you to use notes on the MIDI keyboard to instantly switch between various samples. This is often used for orchestral instruments that have a bunch of articulations. You can instantly switch from Long Sustain to Staccato to Legato to Trills to Tremolo etc. all on one MIDI channel.

Round Robin & Random-These dimensions switch the samples automatically each time you play a note. Round Robin plays a pre-determined sample order while Random triggers the samples randomly.

Smart MIDI- This Dimension is used for the new MIDI tools in Giga 3.0. These tools include the Pattern Alternator, The Repetition Tool and the Legato Mode Tool.

Dimension Split Examples:



Two-Way Mod-Wheel Split:



Two-Way Sustain Pedal Split:



4-Way Keyboard Switch Split:



2 Layer Split:



16-Way Keyboard Switch Split:



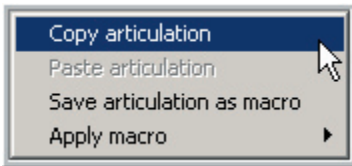
Various 2-Way Splits using all the Dimension Windows:

This view is toggled with the [Dimension View] button.



Dimension Context Menu:

[Right-click] on a dimension split to bring up the context menu.



Copy Articulation:

This command copies all the parameter settings of the current dimension split so that they can be pasted to another region or dimension split.

Paste Articulation:

This command pastes the copied articulation to the selected region or dimension split.

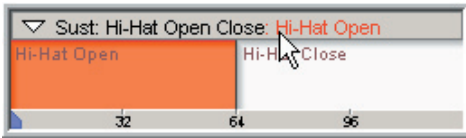
Save Articulation as Macro:

This will save all the parameter settings to a macro so that it can be reused at a later time on other regions, dimensions or even other instruments. See the chapter on Macros for details on working with Macros.

Apply Macro:

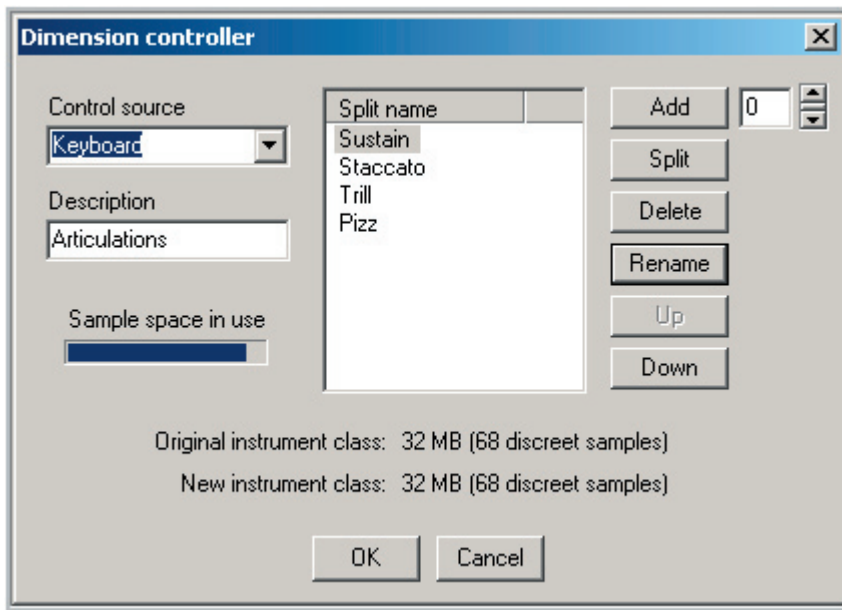
This will apply any available macro to the selected split. See the chapter on Macros for details on working with Macros.

Dimension Controller Window:



Click on the Velocity Map [Toolbar] to open the Dimension Controller Window.

This is where you create, delete, rename and reorder dimension splits.



Control Source:

This is where you choose the MIDI controller or Rule that will change the playback of different samples.

Description:

Enter a useful description here. This will show up in the Dimension Tool bar. It is very important to label the descriptions and split points. It will make mapping & editing much quicker and easier, especially if you wind up with complex dimensions.

Sample Space in Use:

This indicator helps you keep up with the amount of dimension resources available. The meter fills up as you use up more dimensions.

Split Names:

This window is where you select the various splits for deleting, reordering and renaming.

Add Splits:

Click the [Add] button to add more splits. It will add the amount of splits that are entered in the numerical entry field to the right.

Delete:

Select a split or group of splits and click on [Delete] to remove them.

Rename:

Select a Split and click the [Rename] button to enter a new custom name. It is very important to label the various splits and descriptions to keep everything organized and intelligible. These names show up in the Dimension Split Toolbar when different splits are selected.

Move Splits Up & Down:

Select a split and click the [Up or Down] buttons to change its order.

Dimension Playback Pointer:

You can see the incoming MIDI controller location with this pointer. This will help to see which split is playing as you edit. This pointer also selects the dimension split it is pointing to in real time.

Dimension View Toggle Button:

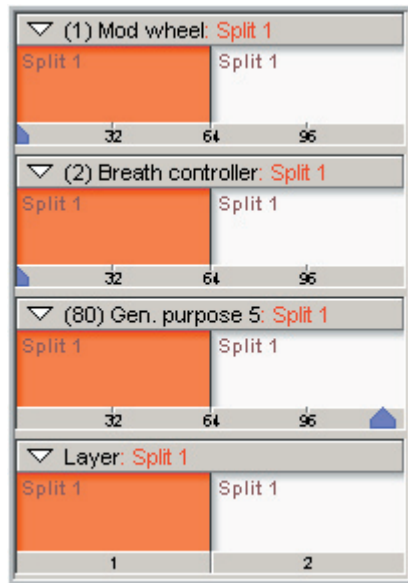
This button switches between 4 and 8 part dimension windows.

If there are only 4 or less dimensions being used, then the 4 part view will offer the most easy to read view with more horizontal space for the names & descriptions.

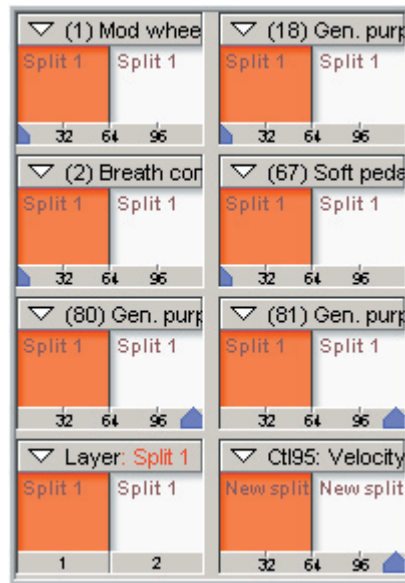
Use the 8 part view when there are more than 4 dimensions being used.



4-Part View:



8-Part View:



Edit Parameters

Envelope 1 & 2 (Amplitude & Filter)

Envelope 2 (filter)	
Pre-attack level (%)	0.00
Attack (sec)	0.000
Decay 1 (sec)	0.005
Sustain level (%)	100.00
Decay 2 (sec)	Infinite
Release (sec)	2.000
Modulation source	None
Modulation invert	
Attack mod depth	
Decay mod depth	
Release mod depth	

Envelope 1 (amplitude)	
Pre-attack level (%)	0.00
Attack (sec)	0.273
Decay 1 (sec)	0.405
Hold	0 - No
Sustain level (%)	57.00
Decay 2 (sec)	0.584
Release (sec)	0.300
Modulation source	None
Modulation invert	
Attack mod depth	
Decay mod depth	
Release mod depth	

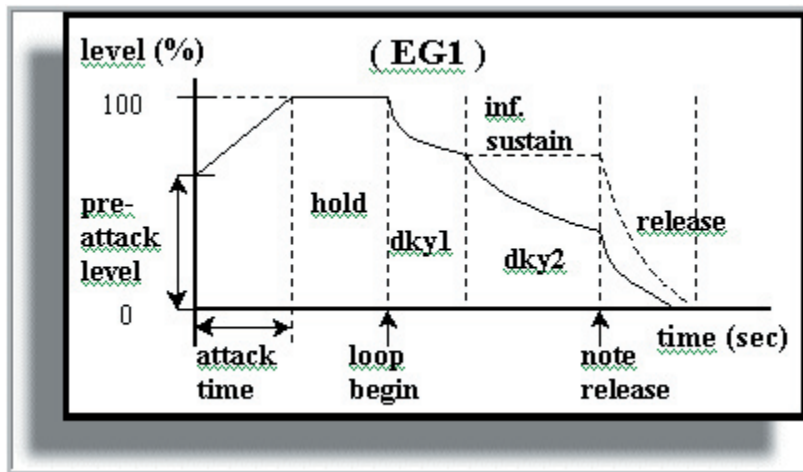
Envelope 1 (amplitude) affects the Volume playback over time.

Envelope 2 (filter) affects the Filter Resonance over time.

The GigaStudio offers the following Envelope Parameters for the Amplitude and Filter Envelopes.

- Pre-attack level (%):
- Attack Time (sec):
- Decay 1 Time (sec):
- Hold: (Yes/No) “Amplitude Envelope Only”
- Sustain level (%):
- Decay 2 Time (sec)/Infinite
- Release Time (sec):

All of these parameters can be adjusted from the Edit Parameters Window and the Drag Tools Menu. Most but not all of them are also viewable and adjustable in the Waveform View Window.



An envelope, in its simplest terms, is a representation of a sound's dynamic properties in the way they change over time. The most common example is the manner in which a sound begins, what occurs during the sustain characteristics, and then fades into silence. All acoustic sounds have their associated envelopes. The three primary aspects of any given sound that can be quantified in terms that can be manipulated by way of an envelope are amplitude (volume), frequency (pitch), and harmonic content (timbre or Filter).

Envelop 1 & 2 Parameters:

The following explanations of the Envelope Parameters apply to both the Amplitude and the Filter Envelope settings with one exception. The Filter Envelope does not have a Hold setting.

Pre-attack level (%):

Pre-attack level (%)	100.00
----------------------	--------

The Pre-attack level is adjusted with percentage numbers. (0.00-100.00) It is the very first point on the ADSR envelope and sets the initial volume level of the attack.

For example, a Pre-attack level of 50.00 sets the beginning of the attack envelope to half the potential volume of the sample. This allows for a sample to begin at any level from silent to full volume.

Attack Time (sec):

Attack (sec)	0.096
--------------	-------

The attack time is measured in seconds (0.000-10.000)

This parameter sets the amount of time that it takes for the attack to reach its full volume. For most instruments, this time will range from zero to a half second max for a natural sounding instrument. However extreme settings can be used for special effects to put a slow volume ramp up for each triggered note.

Decay 1 Time (sec):

Decay 1 (sec)	0.100
---------------	-------

The Decay 1 Time is measured in seconds (0.000-60.000)

This parameter sets the amount of time for the first Decay of the envelope. It decays from the peak level of the attack down to the sustain level.

Hold:

Hold	1 - Yes
Sustain level (%)	0 - No
Decay 2 (sec)	1 - Yes

If a sample has a loop point, the Hold function will prevent the first Decay (Decay 1) from happening until the sample has played through its entire loop one time.

This is real handy for natural decaying instruments like Piano or Guitar that have small looped samples. When Hold is set to “1-Yes” the sample will hold its volume until it plays through the loop. Once it has played through the loop, it will then start the first decay down to the sustain level. This can make for a more realistic envelope for short looped samples. It gives them a little more of a natural personality despite the artificial looping.

Note: Hold is only available on the Amplitude Envelope but not a part of the Filter Envelope.

Sustain level (%):

Sustain level (%)	56.00
-------------------	-------

The Sustain level is adjusted with percentage numbers. (0.00-100.00)

After the first decay dies down, the sample audio will sustain for a period of time depending on the Decay 2 settings. (Infinite or Decay time) This setting determines the volume level of this sustaining portion.

Decay 2 Time (sec):

Decay 2 (sec)	0.225
---------------	-------

Decay 2 time [X]

Decay 2 time Infinite

Note: you can enter this value directly in the parameter list. Either type a number, or type the letter i for infinite.

The Decay 2 Time is measured in seconds (0.000-60.000) or it is set to “Infinite” which overrides the time setting.

This parameter determines how long the Sustain section of the envelope will last.

A Decay 2 Time will cause the sample level to sustain for that amount of time and then go into the release, even without letting go of the note.

Checking the “Infinite” check box will cause the sample level to sustain indefinitely until you release the note.

Release Time (sec):

Release (sec)	0.316
---------------	-------

The Release Time is measured in seconds (0.000-60.000)

This parameter determines how long it will take for the sample volume to ramp down depending on how Decay 2 is set.

If the Decay 2 is set to “Infinite”, the release will kick in when the note is released.

If the Decay 2 is set to an amount of time, then the release will kick in after that amount of time passes “or” if you release the note before that time passes, then the release will kick in at that point.

Amplitude & Filter Modulation Settings:

The Modulation controls allow real-time MIDI control of the Attack, Decay and Release of the Amplitude and Filter.

Modulation source:



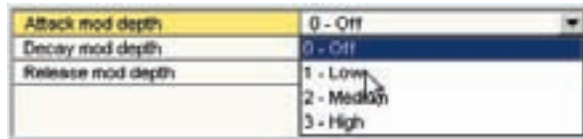
Choose the MIDI controller to use from the list of standard MIDI controllers.

Modulation invert:



This setting allows you to reverse the MIDI controller by setting it to “Yes”

Attack-Decay-Release Mod Depth:



The response of these individual parameters is set here.

- Off-No response to the MIDI control source.
- Low-Very light response to the MIDI control source.
- Medium-Medium response to the MIDI control source.
- High-More drastic response to the MIDI control source.

This allows the MIDI controller to affect only one, two or all three parameters at once and with varying intensities for each.

The effect will depend on the actual envelope settings. For example, if the Attack time in the envelope is set to zero, you will not hear any effect of the Mod controller. Once you enter a parameter higher than zero, this controller will then start working. Smaller Attack time settings will result in very light changes with the Mod controller. Larger settings will result in more drastic changes with the Mod controller. This also applies to the Decay and Release settings. A little experimentation will be needed to learn how this works and figure out the settings you need.

Amp-Filter-Pitch LFO:

Amplitude LFO

▼ LFO 1 (amplitude)	
Frequency (Hz)	9.04
Internal depth (0-1200)	13
Control depth (0-1200)	
Control source	0 - Internal
Phase flip	0 - No
Synch	0 - No

Filter LFO

▼ LFO 2 (filter)	
Frequency (Hz)	3.00
Internal depth (0-1200)	
Control depth (0-1200)	0
Control source	1 - Mod wheel
Phase flip	0 - No
Synch	0 - No

Pitch LFO

▼ LFO 3 (pitch)	
Frequency (Hz)	6.97
Internal depth (cents)	1200
Control depth (cents)	
Control source	0 - Internal
Synch	0 - No

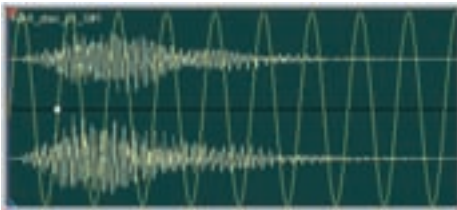
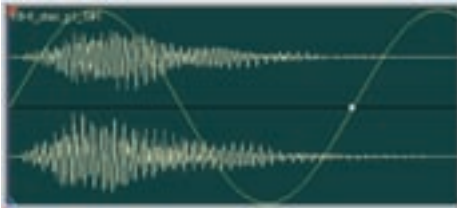
LFO stands for Low Frequency Oscillator:

LFOs are used to control various parameters cyclically, so that continuously repeating changes over time can be automated. For example, applying an LFO to pitch creates the effect known as vibrato. Applying an LFO to amplitude creates a cyclical change in volume known as tremolo. More exotic effects can be created by applying LFOs to filter parameters, for creating repeating changes in harmonic content such as “wah-wah” effects.

GigaStudio includes three discrete LFOs for Amplitude, Filter, and Pitch. The following explanations apply to all three of these with one exception. The Pitch LFO does not have a “Flip Phase” switch.

LFO frequency (Hz):

Frequency (Hz)	10.00
----------------	-------



The Frequency may have any value between 0.1 and 10 Hz and sets the rate at which the LFO oscillates.

Internal depth:

Internal depth (0-1200)	50
-------------------------	----

Use the internal depth to apply a fixed LFO depth.

- Amp LFO 1200+/- Volume Oscillation
- Filter LFO 1200+/- Filter Resonance
- Pitch LFO 1200+/- Pitch in Cents

Control depth:

Control depth (0-1200)	100
------------------------	-----

An external continuous controller, such as the Mod-Wheel can also be used to apply the LFO settings. This setting works the same way as the Internal depth settings but you won't hear its effect until the assigned MIDI controller is moved forward.

- Amp LFO 1200+/- Volume Oscillation
- Filter LFO 1200+/- Filter Resonance
- Pitch LFO 1200+/- Pitch in Cents

Control Source:

The Control Source selects between Internal LFO, Mod Wheel, an Alternative MIDI controller or a combination of Mod Wheel and the Alternative MIDI controller.

This alternative MIDI controller is different for the Amp, Filter and Pitch LFO.

The Alternate controller for the Amp LFO is “Breath Control”

Control source	2 - Breath ctrl
Phase flip	0 - Internal
Synch	1 - Mod wheel
	2 - Breath ctrl
	3 - Int+Mod wheel
	4 - Int+Breath ctrl

The Alternate controller for the Filter LFO is “Foot Control”

Control source	2 - Foot ctrl
Phase flip	0 - Internal
Synch	1 - Mod wheel
	2 - Foot ctrl
	3 - Int+Mod wheel
	4 - Int+Foot ctrl

The Alternate controller for the Pitch LFO is “Aftertouch”

Control source	2 - Aftertouch
Synch	0 - Internal
	1 - Mod wheel
	2 - Aftertouch
	3 - Int+Mod wheel
	4 - Int+Aftertouch

Control Source for Amplitude LFO

0-Internal: Only the pre-set LFO depth will be heard.

1-Mod Wheel: The Mod Wheel modifies the LFO depth.

2-Breath Control: Breath Controller modifies the LFO depth.

3-Int/Ex Mod Wheel: In addition to the internal preset, the Mod Wheel further modifies the LFO depth.

4-Int/Ext Breath Control: In addition to the internal preset, the Breath Control further modifies the LFO depth.

Control Source for Filter LFO

0-Internal: Only the pre-set LFO depth will be heard.

1-Mod Wheel: The Mod Wheel modifies the LFO depth.

2-Foot Control: Foot Controller modifies the LFO depth.

3-Int/Ex Mod Wheel: In addition to the internal preset, the Mod Wheel further modifies the LFO depth.

4-Int/Ext Foot Control: In addition to the internal preset, the Foot Control further modifies the LFO depth.

Control Source for Pitch LFO

0-Internal: Only the pre-set LFO depth will be heard.

1-Mod Wheel: The Mod Wheel modifies the LFO depth.

2-Aftertouch: Aftertouch modifies the LFO depth.

3-Int/Ex Mod Wheel: In addition to the internal preset, the Mod Wheel further modifies the LFO depth.

4-Int/Aftertouch: In addition to the internal preset, the Aftertouch further modifies the LFO depth.

Flip phase:

Phase flip	0 - No
Synch	0 - No
	1 - Yes

This switches the phase, or direction, of the Amp and Filter LFOs. This is not available for the Pitch LFO.

Synch:

Synch	0 - No
	0 - No
	1 - Yes

This enables a single synchronized LFO. The LFO will be constant no matter what note is played or when it is struck.

When this is not enabled, an LFO begins at the point in time when each note is played and each note will have its own out of synch and independent cycle.

When Synch is enabled, the LFO cycle will stay in synch for all the notes no matter when they are triggered.

Filter Settings

Filter	
Filter type	1 - Lowpass
Turbo LPF	0 - Off
Cutoff freq (0-127)	127
Cutoff controller	None
Control invert	
Minimum cutoff	20
Resonance (0-127)	0
Dynamic resonance	0 - No
Resonance controller	None
Key tracking	0 - No
Keytrack breakpoint	60
Velocity curve	0 - Nonlinear
Velocity range	4 - Med low

Filters shape the timbre of a sound by reducing (or “filtering”) the amplitude of specific frequency ranges. This can be used to make an instrument’s character warm, dull, bright, or thin depending on the type of filter and its settings.

Filters can be used creatively by assigning real-time continuous controllers to various aspects of its envelope, cutoff frequency, and resonance thereby allowing for creation of more synthetic textures with electronic characteristics.

Filter Type:

Use the drop-down arrow to select the type of filter.

Filter type	0 - None
Turbo LPF	0 - None
Cutoff freq (0-127)	1 - Lowpass
Cutoff controller	2 - Highpass
Control invert	3 - Bandpass
Minimum cutoff	4 - Bandreject

None:

Filter type	0 - None
-------------	----------

The filter mode is completely bypassed

Lowpass:

Filter type	1 - Lowpass
-------------	-------------

This filters out high frequencies

Highpass:

Filter type	2 - Highpass
-------------	--------------

This filters out low frequencies

Bandpass:

Filter type	3 - Bandpass
-------------	--------------

Filters out a mid frequencies

Bandreject:

Filter type	4 - Bandreject
-------------	----------------

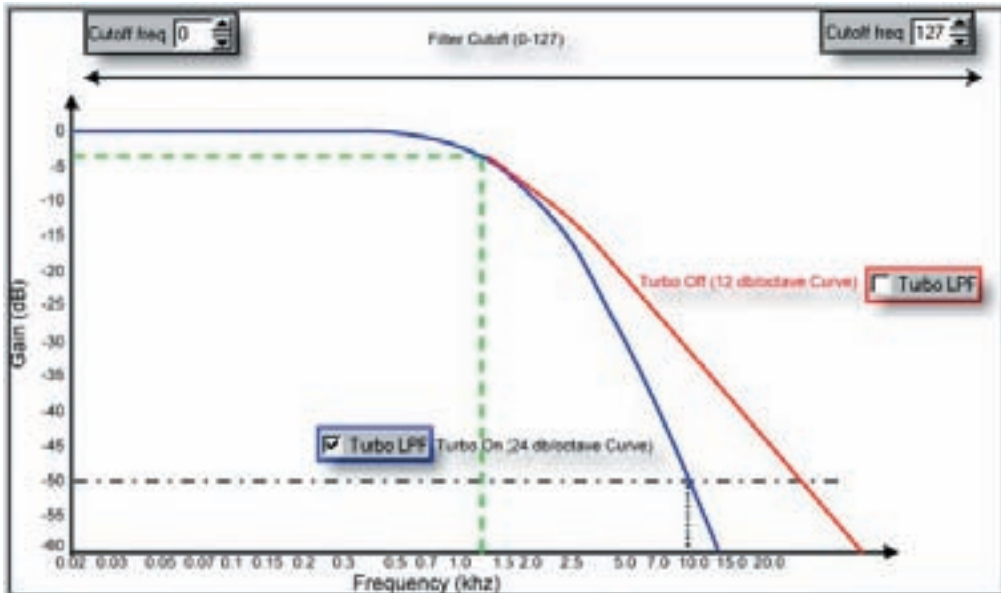
Inverse filtering of mid frequencies

Turbo LPF:

Turbo LPF	
Cutoff freq (0-127)	0 - Off
Cutoff controller	1 - On

Adds additional poles of attenuation to the Lowpass filter algorithm. This creates a more intense analog filter effect. This option is only available when the selected Filter Type is set to “Lowpass”

When used with certain resonance settings, Turbo LPF can generate high amplitude resonant frequency oscillations. Proceed with caution when editing at loud volumes. This could be damaging to your speakers.



Cutoff freq:

Cutoff freq (0-127)	73
---------------------	----

This sets the maximum filter cutoff frequency.

Range is from 0-127:

This parameter is only available if the Cutoff Controller is set to “None”.

Cutoff controller:

Cutoff controller	(1) Mod wheel
Control invert	None
Minimum cutoff	(1) Mod wheel
Resonance (0-127)	(2) Breath controller
Dynamic resonance	(4) Foot controller
Resonance controller	(12) Effect control 1
Key tracking	(13) Effect control 2
Keytrack breakpoint	(64) Sustain pedal

Instead of setting the cutoff frequency, this parameter allows you to assign a MIDI controller to the Cutoff Frequency for real-time continuous control. This overrides the Cutoff Frequency setting, which will be disabled once you assign a MIDI controller here.

Control invert:

Control invert	1 - Yes
Minimum cutoff	0 - No
Resonance (0-127)	1 - Yes

This setting allows you to reverse the MIDI controller by setting it to “Yes”

Min cutoff:

Minimum cutoff	20
----------------	----

This value places a limit on the lowest filter cutoff frequency when using MIDI Cutoff Controller. The low range of the MIDI controller will start with this value.

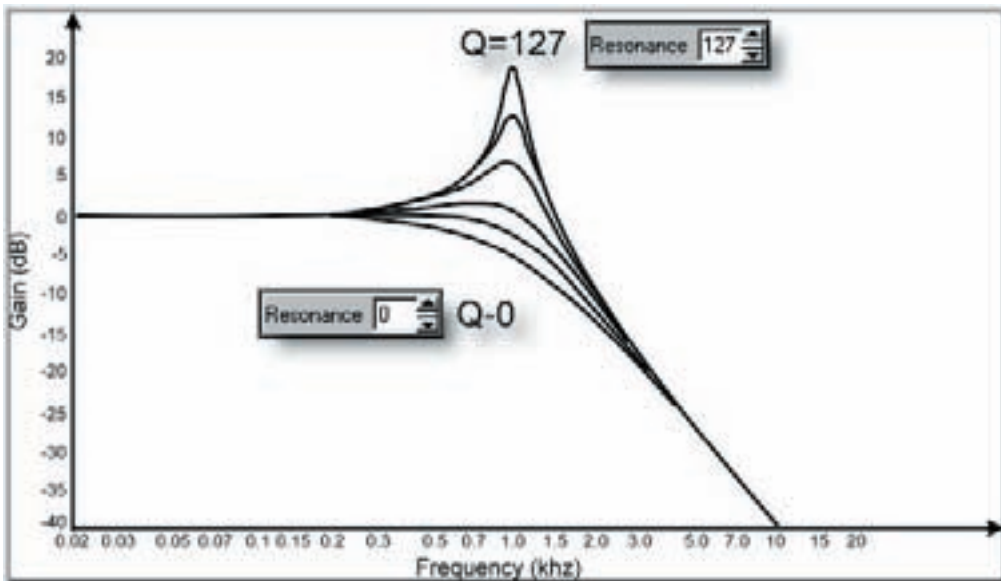
Range is from 0-127

Resonance:

Resonance (0-127)	70
-------------------	----

Resonance creates a peak in amplitude at the specific cutoff frequency, and is used to generate classic analog synth textures. The maximum resonance is set close to the point of self-oscillation, and will resonate according to the frequency content of the waveform that is being filtered.

Range is from 0-127:



Dynamic:

Dynamic resonance	1 - Yes
Resonance controller	0 - No
Key tracking	1 - Yes

A setting of “Yes” increases the overall resonance by dynamically scaling the Q in addition to the cutoff frequency of the filter over changes of envelope and/or external control.

Resonance controller:

Resonance controller	(18) Gen. purpose 3
Key tracking	None
Keytrack breakpoint	(18) Gen. purpose 3
Velocity curve	(19) Gen. purpose 4
Velocity range	(80) Gen. purpose 5
	(81) Gen. purpose 6

Assign a real-time MIDI controller to the Resonance.

Key tracking:

Key tracking	1 - Yes
Keytrack breakpoint	0 - No
Velocity curve	1 - Yes

A setting of “Yes” Scales the cutoff frequency based on key position relative to the assigned Breakpoint value. (Next Item)

With this feature, you can have the filter go from dark to bright as you play from one end of the keyboard to the other.

Key Tracking Breakpoint:

Keytrack breakpoint	60
---------------------	----

Adjust this value to set the breakpoint for the filter keyboard tracking.

Range is from 0-127 with a default value of 60 (Middle C):

Velocity scale:

This value is used to scale the currently selected velocity curve in order to specify a much larger number of filter velocity responses. For example, if you desire the filter to scale from a low cutoff to fully open within the lowest velocity range, the filter response can be scaled to open more quickly by entering values above 20 (up to 127). Values below 20 will cause the filter to open more slowly over velocity yielding a darker response.

The range is 0-127 with a default value of 20.

This parameter is only available if the Cutoff Controller is set to “None”.

Velocity curve:

Velocity curve	0 - Nonlinear
Velocity range	0 - Nonlinear
	1 - Linear
	2 - Special

Select how the filter responds to the incoming velocity.

- 0-Non linear
- 1-Linear
- 2-Special

Velocity dynamic range:

Velocity range	4 - Med low
	1 - High
	2 - Med high
	3 - Medium
	4 - Med low
	5 - Low

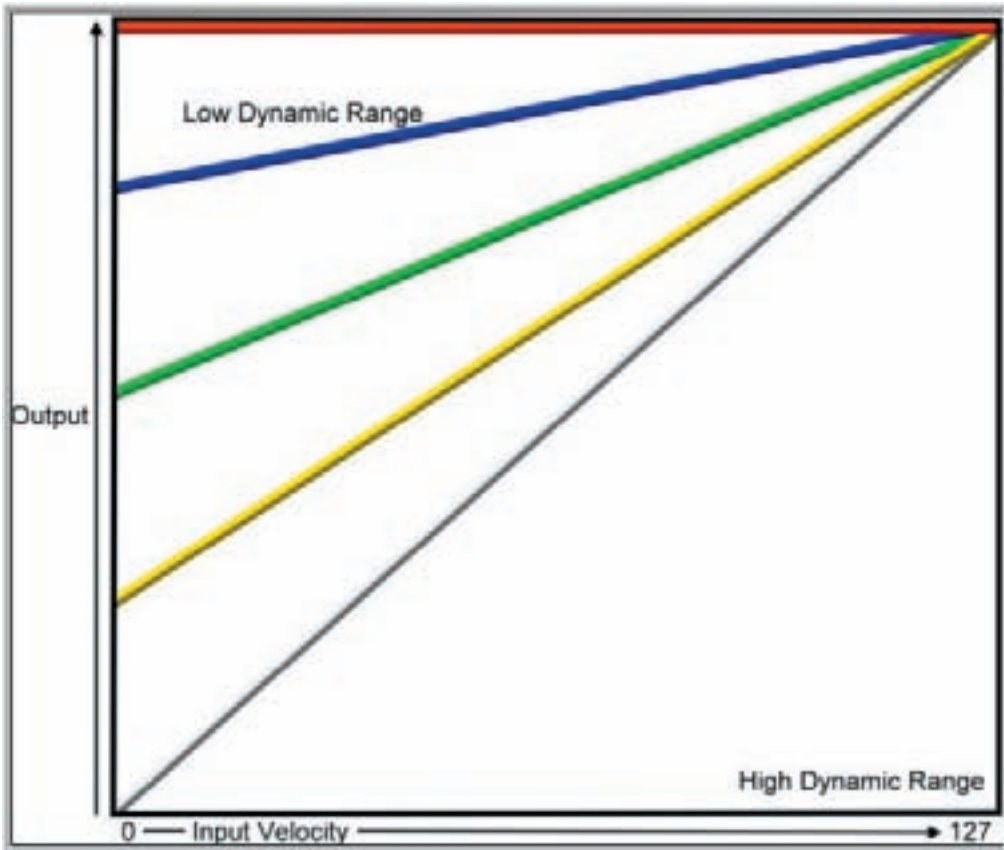
With this setting, you can lower or raise the dynamic range of the velocity response of the filter. There are five response positions:

- 1-High
- 2-Medium high
- 3-Medium
- 4-Medium low
- 5-Low

This setting varies dramatically depending on which velocity curve has been assigned.

The next three diagrams will show how these two settings (Velocity Curve and Velocity Dynamic Range) interact with each other.

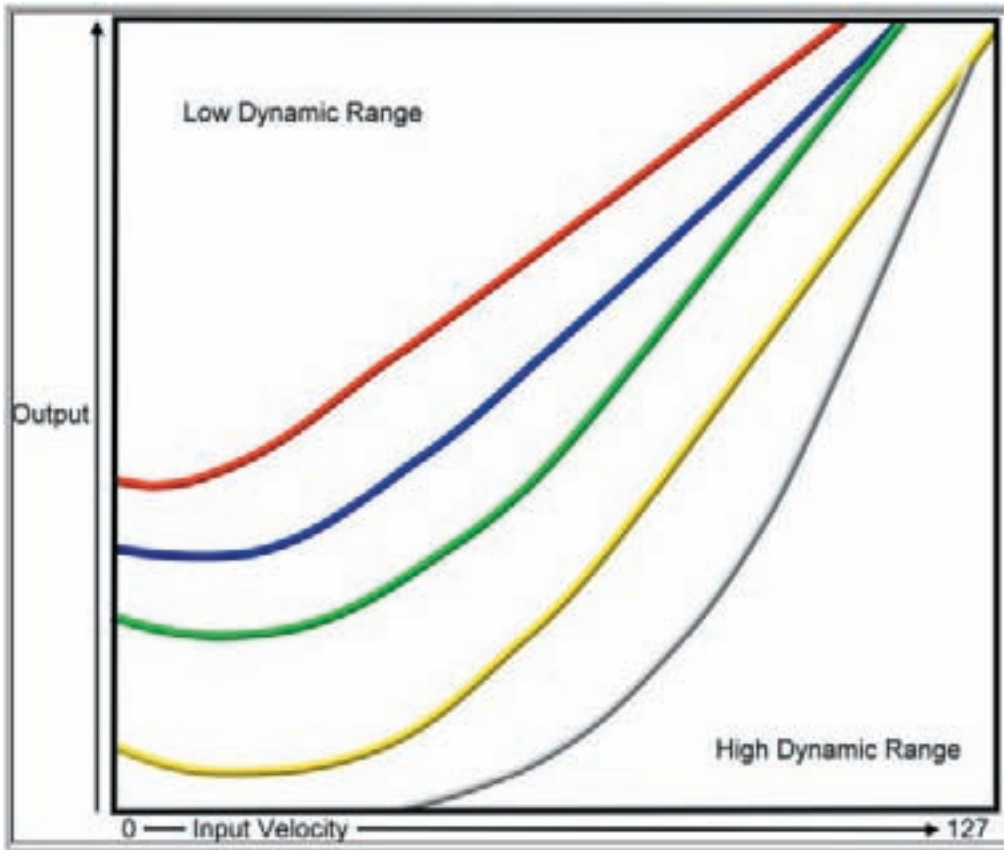
Linear Curve:



Each line represents one of the 5 dynamic range curves from top to bottom.

- Low
- Medium low
- Medium
- Medium high
- High

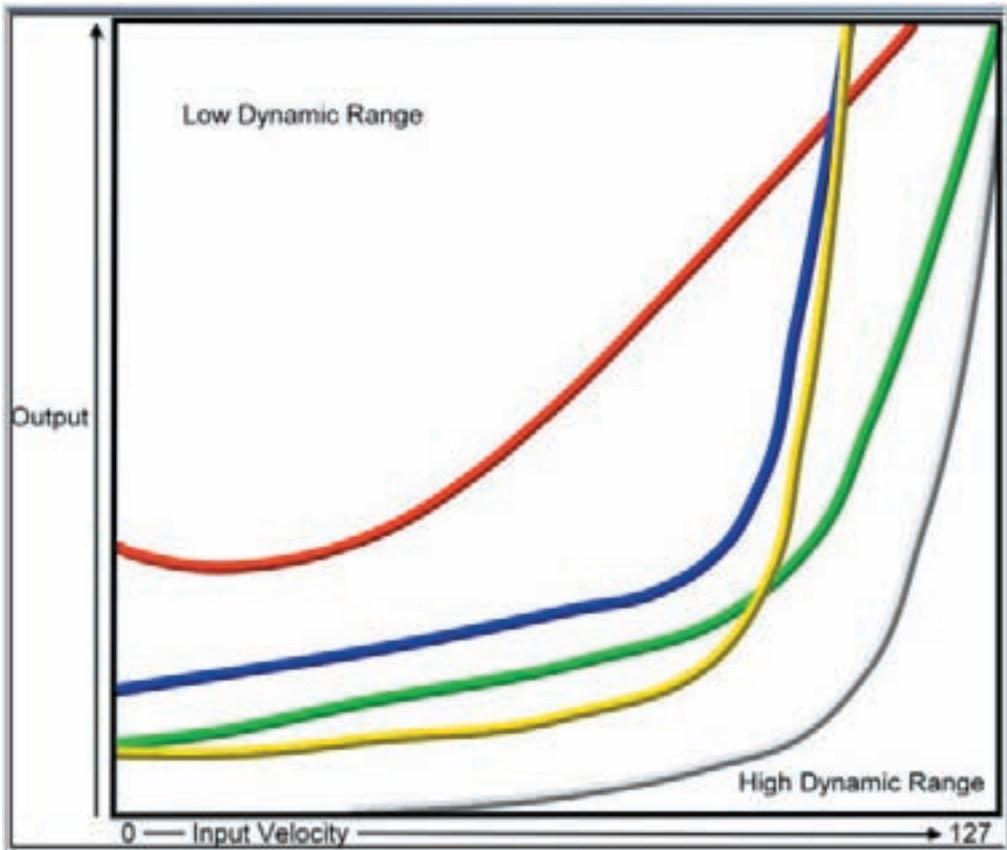
Non-Linear Curve:



Each line represents one of the 5 dynamic range curves from top to bottom.

- Low
- Medium low
- Medium
- Medium high
- High

Special Curve:



Each line represents one of the 5 dynamic range curves from top to bottom.

- Low
- Medium low
- Medium
- Medium high
- High

Response Settings:

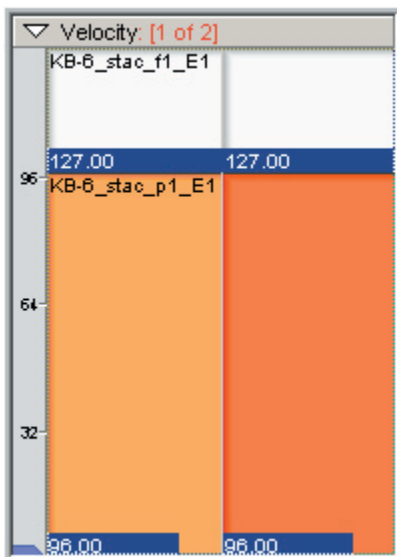
Response	
Velocity split point	85
Velocity curve	0 - Nonlinear
Velocity curve range	4 - Med low
Velocity curve scaling	0
Release curve	1 - Linear
Release curve range	4 - Med low
Release trigger decay	8 - Slowest

The previous 3 diagrams of Response curves and Dynamic range settings also apply to the Response Settings.

These settings determine the Velocity and Release Velocity responses and curves. If an instrument doesn't have the right feel for your playing style or keyboard, these are the settings that will smooth things out.

Velocity Split Point:

Velocity split point	96
----------------------	----



Although the Velocity Split points can be edited in the Velocity Map, you can also enter it numerically in the Instrument Parameters window.

Note-On Velocity response curve:

Velocity curve	0 - Nonlinear
Velocity curve range	0 - Nonlinear
Velocity curve scaling	1 - Linear
Release curve	2 - Special

Choose the velocity response curve:

(Refer to the previous curve & response diagrams)

- Linear
- Non-linear
- Special

Note-On Velocity Dynamic range:

Velocity curve range	4 - Med low
Velocity curve scaling	1 - High
Release curve	2 - Med high
Release curve range	3 - Medium
Release trigger decay	4 - Med low
	5 - Low

Select one of the five response curves:

(Refer to the previous curve & response diagrams)

- 1-High
- 2-Medium high
- 3-Medium
- 4-Medium low
- 5-Low

Note-On Velocity Curve Scaling:

Velocity curve scaling	20
------------------------	----

This works in conjunction with the 5 Dynamic Range settings to give even finer control of the velocity response. Find a Dynamic Range setting that works best and then use this to fine tune the feel.

Range is from 0-127:

Note-Release Velocity response curve:

Release curve	0 - Nonlinear
Release curve range	0 - Nonlinear
Release trigger decay	1 - Linear
	2 - Special

The Release Velocity settings affect the release note decay time based on the Note On Velocity. This is more noticeable with longer Amp Envelope release times. This feature allows you set longer or shorter release times depending on how hard you hit the note.

Choose the release velocity response curve:
(Refer to the previous curve & response diagrams)

- Linear
- Non-linear
- Special

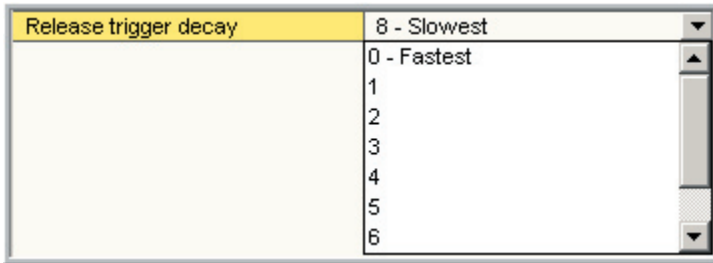
Note-Release Velocity Dynamic range:

Release curve range	4 - Med low
Release trigger decay	1 - High
	2 - Med high
	3 - Medium
	4 - Med low
	5 - Low

Select one of the five response curves:
(Refer to the previous curve & response diagrams)

- 1-High
- 2-Medium high
- 3-Medium
- 4-Medium low
- 5-Low

Release trigger decay



This parameter determines the rate of attenuation for the amplitude of an existing release-triggered sample.

When you are using a Release Trigger dimension, you can control the volume of its playback depending on how long you hold down the Note-On.

With Slower settings, you can hold the note down longer and still get the release trigger sample to play fairly loud.

With Faster settings, the release trigger will be quiet or even silent unless you let up on the note quick enough.

There are 9 levels to choose from:

0-Fastest

1

2

3

4

5

6

7

8-Slowest

Mix/Layer Settings

▼ Mix/layer	
Attenuation	6
6 dB boost	0 - No
Attenuation controller	(1) Mod wheel
Attn control invert	1 - Yes
Attn control threshold	0
Pan	0
Pitch tracking	1 - On
Mid/side decode	0 - No
Self mask	0 - No
Sustain defeat	0 - No
Dimension bypass	(94) Effect 4 depth
Crossfade in start	0
Crossfade in finish	0
Crossfade out start	0
Crossfade out finish	0
Channel offset	0
Sample start offset	0
Reserved	0

This section Volume attenuations & Cross-fade Layering settings and several important miscellaneous settings.

Attenuation:

Attenuation	8
-------------	---

Attenuation is measured in decibels (dB). This parameter is always a positive number; with higher values indicating decreasing output levels.

This field is unavailable when the Attenuation controller is selected. You can use an external controller alongside and attenuation setting but the attenuation needs to be set first before selecting an attenuation controller. If the attenuation controller is already selected, it needs to be reset temporarily to none to access the attenuation setting for adjustment.

Range is from 0-98 dB: A value of 96 = silence while a value of 0 = full volume.

6 dB boost:

6 dB boost	1 - Yes
Attenuation controller	0 - No
Attn control invert	1 - Yes

A 6 dB increase is available if needed to boost individual samples.

Attenuation controller:

Attenuation controller	(1) Mod wheel
Attn control invert	None
Attn control threshold	(1) Mod wheel
Pan	(2) Breath controller
Pitch tracking	(4) Foot controller
Mid/side decode	(5) Portamento time
Self mask	(12) Effect control 1
Sustain defeat	(13) Effect control 2

Assign a MIDI continuous controller for real-time attenuation control.

By assigning the same attenuation controller to groups of related notes or samples, a MIDI controlled sub mix capability can be designed into the instrument so that individual sounds can have discrete MIDI volume control.

Attenuation Controller Invert:

Attn control invert	1 - Yes
Attn control threshold	0 - No
Pan	1 - Yes

This reverses the MIDI controller. This is crucial to creating a simple MIDI controller cross-fade layer. Both layers would be set to the same MIDI controller for attenuation but one would be inverted with this parameter. The result would be a cross-fade.

Attn CC thresh:

Attn control threshold	18
------------------------	----

This parameter allows you to assign a minimum threshold to the external volume attenuation controller. This is useful for volume crescendo/decrescendo and expressive dynamics. Its very similar the threshold knob found on controller/volume pedals. For example, this allows a MIDI controller to set the volume from “full volume to soft” instead of “full volume to silent”

Pan:

Pan	-64
-----	-----

This setting sets the pan position by a value from -64 (hard left) to +63 (hard right). It is very useful for instruments where it is desirable for individual samples to have their own unique pan settings.

Pitch track:

Pitch tracking	1 - On
Mid/side decode	0 - Off
Self mask	1 - On

This setting enables or disables the Pitch Tracking of samples across the keyboard. This is typically disabled for non-pitched samples such as drums, percussion, loop, and sound effects and enabled for melodic instruments. Pitch tracking will transpose the sample based on its unity note setting.

M/S decode:

Mid/side decode	0 - No
Self mask	0 - No
Sustain defeat	1 - Yes

GigaStudio can decode Mid Side encoded recordings using this checkbox.

M/S or Mid-Side mic'ing is a creative method of recording direct from the source with a cardioid-type microphone on one channel alongside a large diaphragm microphone with a 'figure of 8' pattern to capture ambience. Since it is not a true right/left representation of the sound field it must first be decoded to a useable stereo signal. The direct or 'Mid' channel recording is panned to the center of the stereo field while the ambient or 'Side' channel recording is split to both left and right channels with the phase reversed on one of the channels. The 'Side' level can then be adjusted by attenuation to dial in the preferred amount of ambience in the source wave file.

Self mask:

Self mask	0 - No
Sustain defeat	0 - No
Dimension bypass	1 - Yes

When checked, this causes high velocity notes to shut off lower velocity voices. This feature conserves polyphony and should be tried on all samples with percussive attacks and releases (pianos, guitars, cymbals, etc.)

Sustain defeat:

Sustain defeat	0 - No
Dimension bypass	0 - No
Crossfade in start	1 - Yes

This setting enables or disables the sustaining action of the sustain pedal. This allows the sustain pedal to simply be used as a dimension switch without sustaining the samples.

Dimension bypass:

Dimension bypass	(94) Effect 4 depth
Crossfade in start	None
Crossfade in finish	(94) Effect 4 depth
Crossfade out start	(95) Effect 5 depth

You can bypass the current dimension by assigning one of these two controllers:

- Effect 4 depth (cc 94)
- Effect 5 depth (cc 95)

This allows you to turn a dimension on and off in real time using one of these MIDI controllers.

This can be useful to override certain characteristics built into an instrument without having to actually edit the instrument.

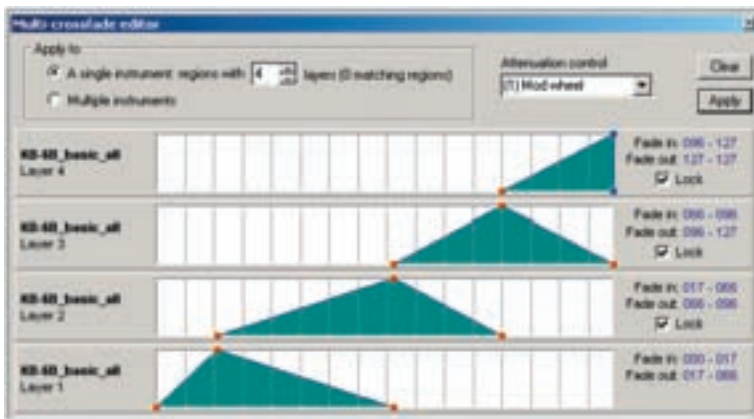
Cross-fade In and Out Settings:

Crossfade in start	0
Crossfade in finish	0
Crossfade out start	0
Crossfade out finish	0

This corresponds to the Cross-fade Editor window and allows numerical entry of custom in and out points for the MIDI control of volume cross-fades.

The In & Out points range from 0-127:

Multiple-Cross-fade Editor window:



Channel offset:

Channel offset	9
----------------	---

This setting creates an offset for individual samples within a single instrument.

When the instrument is loaded in the main GigaStudio interface and assigned to channels in the DSP Mixer, samples that have offsets will show up in the mixer channels to the right.

Lets take an example of an instrument assigned to channels 1-2 on the DSP Mixer.

- Samples with an offset of 2 will show up on channels 3-4
- Samples with an offset of 3 will show up on channels 4-5
- Samples with an offset of 4 will show up on channels 5-6
- And so on.

Sample start offset:

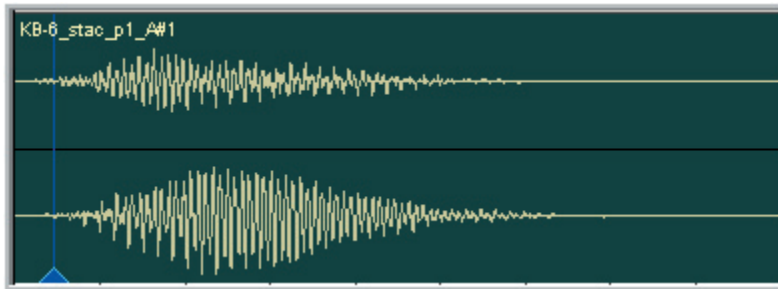
Sample start offset	2000
---------------------	------

Set the sample offset to start after the beginning of the wave sample.

The value is measured in samples and has maximum limit of 2000 samples.

This is useful to soften the attack of a sample or if there is a pop at the beginning of a sample.

The Sample Start Offset is also viewable and adjustable in the Waveform View window. (The Blue marker)



Sample Settings

▼ Sample	
Unity note	A#1
Fine tuning	50
Loop start	75985
Loop end	75985
Loop length	1

This section allows you to override the unity note and fine-tuning of individual samples.

Unity note:

Unity note	A#1
------------	-----

Adjust the unity note of the individual sample here. The unity note is the root note of the sample and affects how the Pitch Tracking will work:

Fine Tuning (cents):

Fine tuning	50
-------------	----

Adjust the micro tuning of the individual samples here in cents.

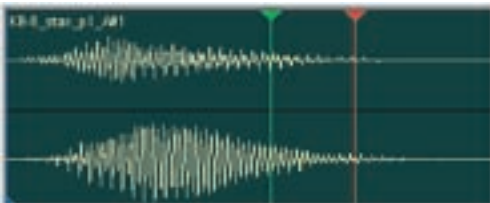
The range is +/- 50 cents.

Loop Start, End, Length:

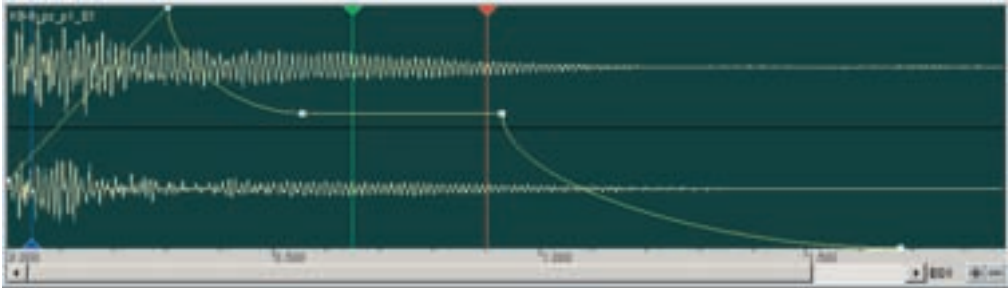
Loop start	18677
Loop end	24591
Loop length	5915

Here you view or make changes to the loop points or the loop length.

The loop points are also visible and adjustable in the Waveform View window. The Green marker is the loop start and the Red marker is the loop end.



Waveform Window:



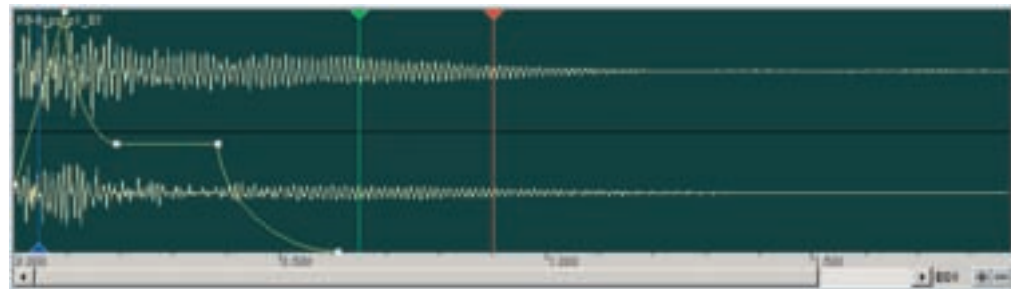
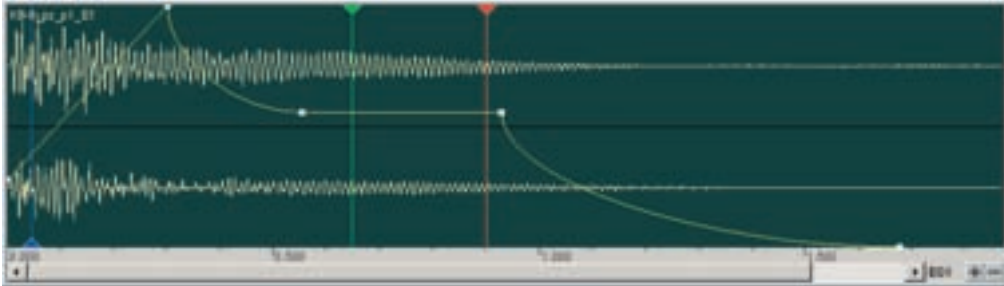
This window displays the audio waveform and several of the editing parameters.

The parameters are accurately aligned on top of the waveform and they can be edited here using the mouse.

If changes are made to these parameters elsewhere, the changes will instantly update here and vice versa. This helps you keep a visual overview of the editing process. It allows you to edit three different ways and see the results from three angles in real-time.

Envelopes View:

You can make edits by dragging the envelope points with the mouse.



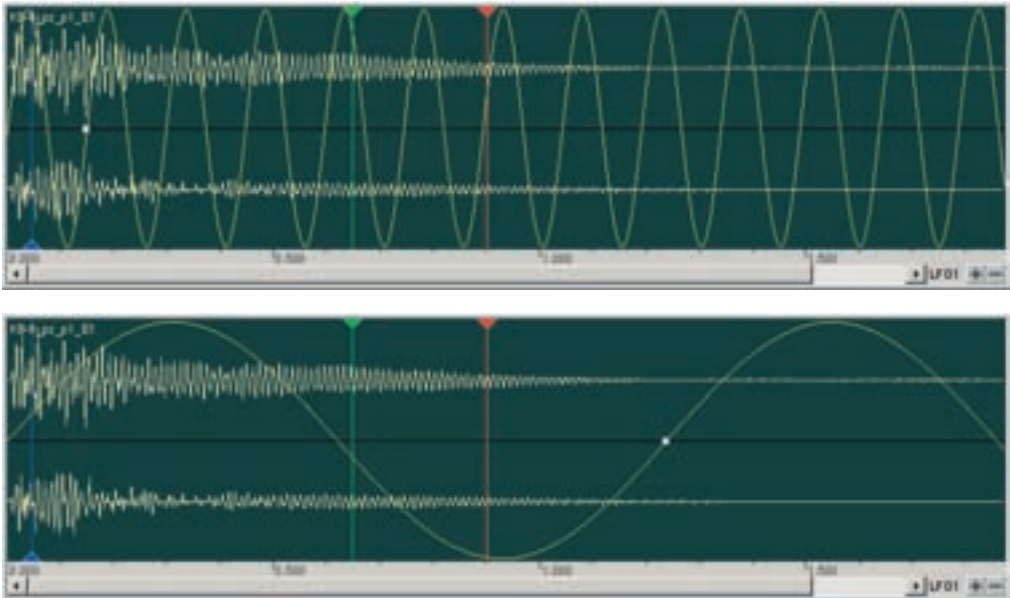
Envelope-1 Amplitude: Yellow in color.

Envelope-2 Filter: Purple in color.

Envelope-2 Pitch: Blue in color.

LFO (Low Frequency Oscillator View):

You can make edits by dragging the point with the mouse.

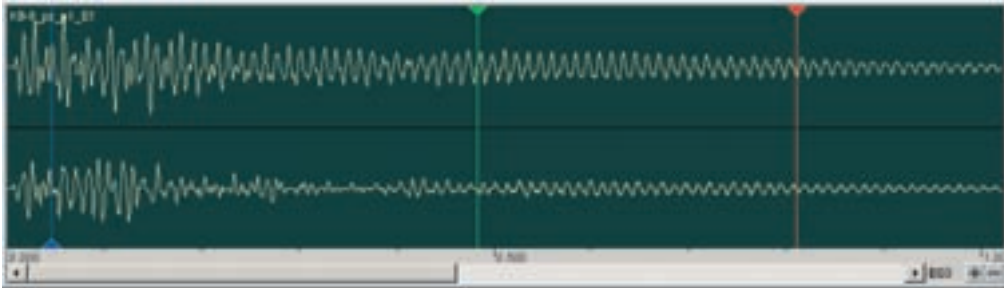


LFO-1 Amplitude: Yellow in color.

LFO-2 Filter: Purple in color.

LFO-3 Pitch: Blue in color.

Sample & Loop Markers:



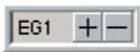
These markers can be moved with the mouse by grabbing them by the triangle.

Sample Start Offset: Blue Marker.

Loop Start: Green Marker.

Loop End: Red Marker.

Zoom Buttons:

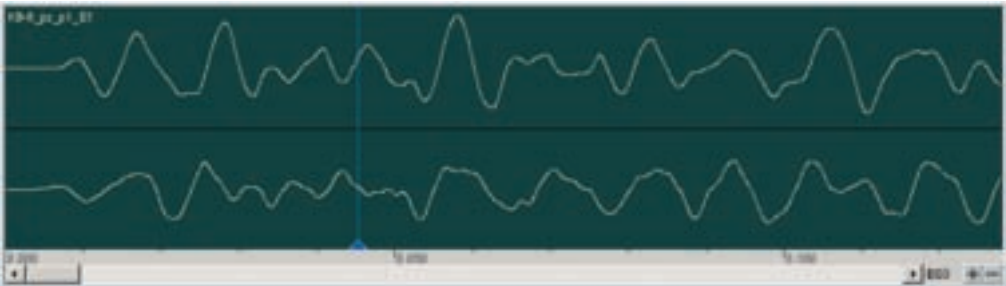


Zoom in and out with the buttons in the lower right hand corner.

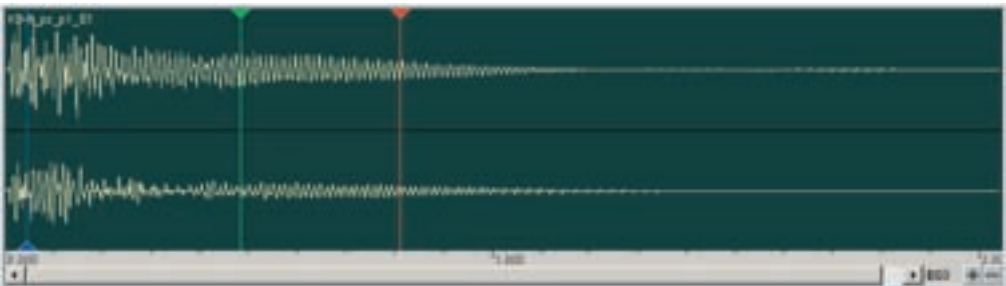
Zoomed Out:



Zoomed In:



Medium Zoom:



Parameter Name:



Next to the zoom buttons is the name of the currently selected parameter.

Drag Tools:

The Drag Tool is one of the most innovative features that GigaStudio is famous for.

This tool allows you to choose nearly any parameter and then edit it by sliding the blue markers on the regions.

This tool has several advantages:

- It allows you to select any number of regions in any order and edit the parameters all at once but only on the selected regions.
- It gives a graphic overview of the selected parameter giving you a helpful visual picture of the parameters across the key range.
- It offers a sensitive slider to make edits with.
- With the Linear and Proportional scaling, you can do some fancy angles and curves from one end of the key range to the other. The parameter amounts can ascend and descend across the key range.

Using the Drag Tools:

1. Select a parameter from Edit Parameters Window or from the Drag Tool Menu.

Select parameter here.

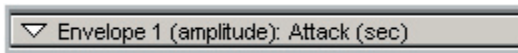
Edit Parameter window:

▼ Envelope 1 (amplitude)	
Pre-attack level (%)	0.00
Attack (sec)	0.830
Decay 1 (sec)	3.822

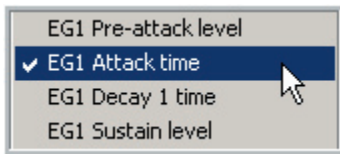
Or:

Click on the [tool bar] to bring up the Drag Tool Menu:

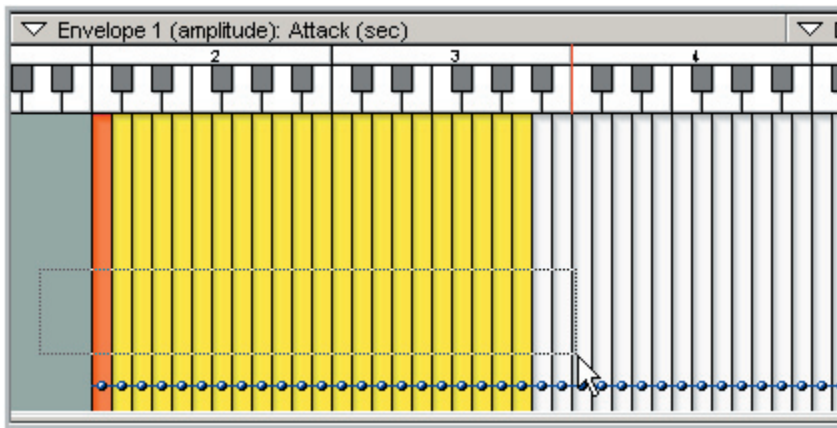
Drag Tool Bar:



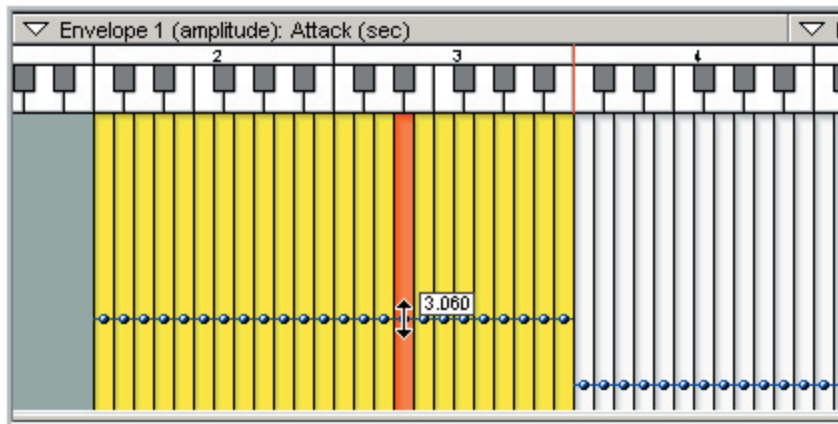
Drag Tool Menu:



2. Select a region or group of regions to make adjustments to.



3. Drag the blue markers up & down to adjust the parameter and let go.

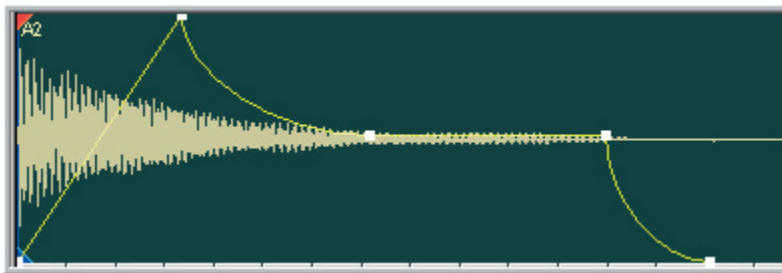


4. The parameter change is visible in the Parameter Edit window and the Waveform window.

Parameter Edit window:

▼ Envelope 1 (amplitude)	
Pre-attack level (%)	0.00
Attack (sec)	3.360
...	...

Waveform window:



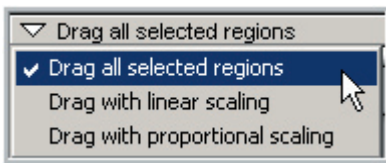
Drag Mode Menu:

Click on the [tool bar] to bring up the Drag Mode Menu:

Drag Mode Toolbar:



Drag Mode Menu:



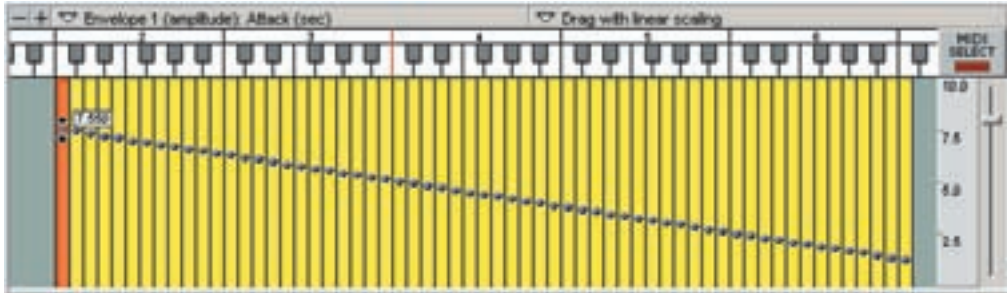
Drag all selected regions:

This mode simply moves all the selected blue markers and keeps them at the same level with each other. This is used for straight forward editing.



Drag with linear scaling:

This mode allows linear scaling so that you can have ascending and descending parameter values up & down the key range.

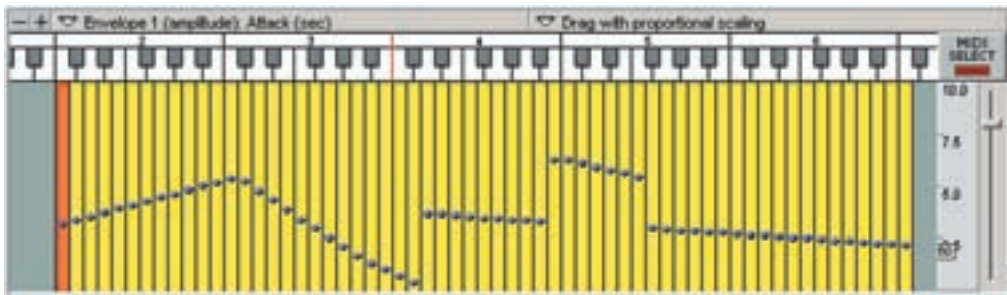


A common use for this mode is to have release times that are short on the top and get longer as you go down the keyboard on a piano.

Drag with proportional scaling:

Use this mode to make subtle modifications to a keyboard scaling without disturbing the basic shape.

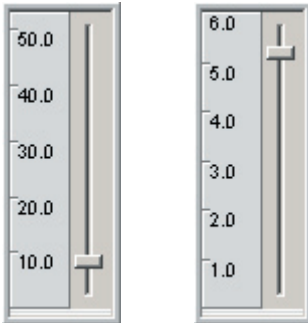
Before: Carefully edited parameters.



After: Parameters keep their relationship to each other while editing.

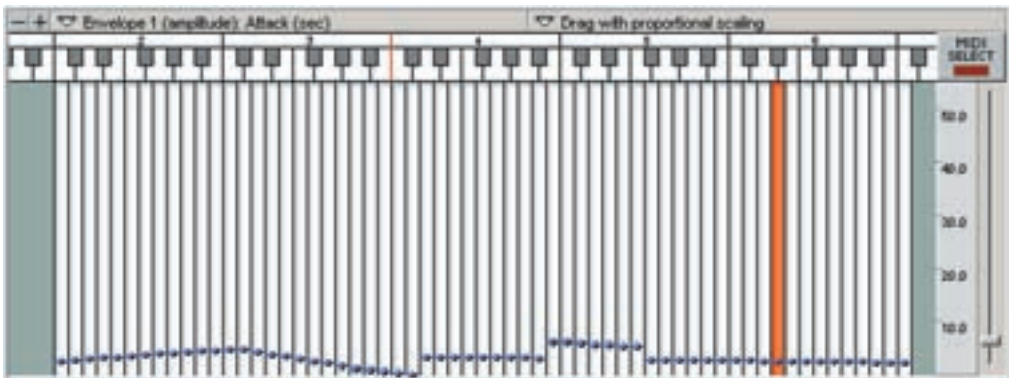


Scale Resolution:

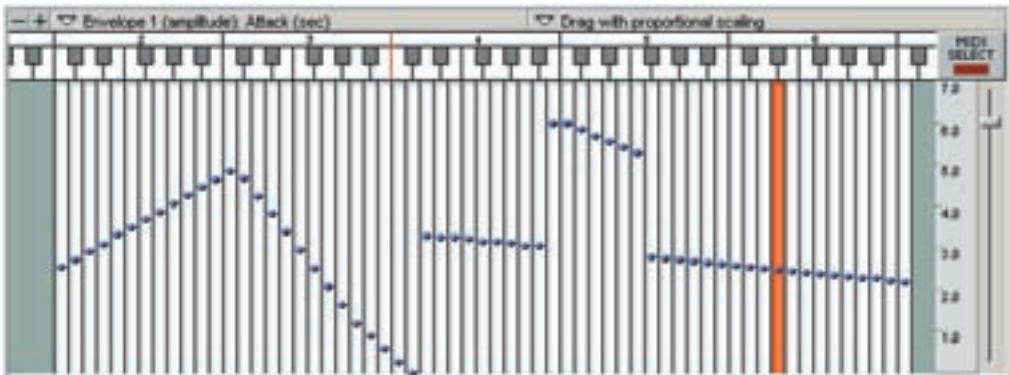


You can change the sensitivity of the blue markers by changing the Scale Resolution.

Lower Scale Resolution:



Higher Scale Resolution:



Real-Time Updating:

The Drag Tool [menu bar] will update automatically whenever you switch parameters in the Edit Parameters window.

Select a parameter in the Edit Parameters window:

Envelope 1 (amplitude)	
Pre-attack level (%)	0.00
Attack (sec)	0.450
Decay 1 (sec)	3.822
Hold	0 - No
Sustain level (%)	51.00
Decay 2 (sec)	4.774
Release (sec)	2.145
Modulation source	None

The Drag Tool Menu changes to match:

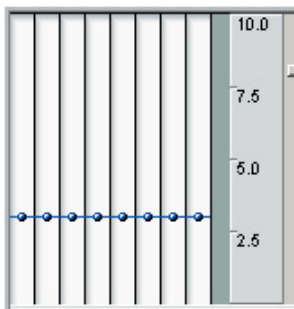
Envelope 1 (amplitude): Release (sec)

The blue markers will change position to match the edit changes made in the Edit Parameters window or in the Waveform window.

Change the parameter value:

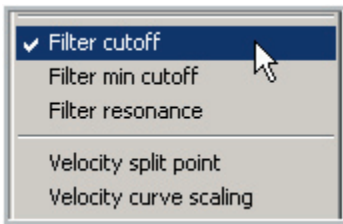
Envelope 1 (amplitude)	
Pre-attack level (%)	0.00
Attack (sec)	0.450
Decay 1 (sec)	3.822
Hold	0 - No
Sustain level (%)	51.00
Decay 2 (sec)	4.774
Release (sec)	3.000
Modulation source	None

The blue markers change to match:



Changes made with the Drag Tools will also be updated in the other windows as well.

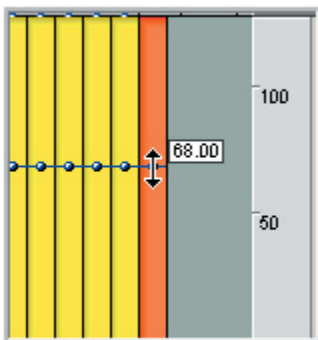
Change to another parameter in the Drag Tool Menu:



The parameter will be selected in the Edit Parameter window:

Filter	
Filter type	1 - Lowpass
Turbo LPF	0 - Off
Cutoff freq (0-127)	127
Cutoff controller	None

Change a value with the blue markers:



The parameter value will change in the Edit Parameter window:

Filter	
Filter type	1 - Lowpass
Turbo LPF	0 - Off
Cutoff freq (0-127)	68

Macros

A Macro is a huge time saving feature that allows you to save any particular parameter edit or group of edits to be reused later.

For example, if you have spent a lot of time coming up with the perfect ADSR and Filter settings, you don't want to have to write them all down and recreate them by hand just to use them in another instrument. Instead, you can save the edits as a macro and instantly apply those hard won settings to another instrument.

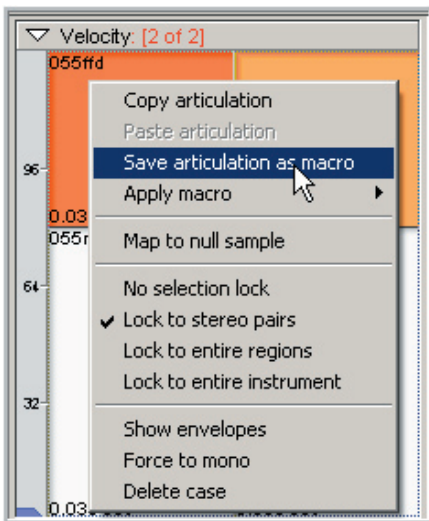
For settings that you use a lot, you can even assign a "hot-key" to any macro.

You can also copy your collection of macros to another GigaStudio system.

Saving Macros:

To save a new Macro, select the dimension that has the settings you want to save. This could be a specific velocity split of a specific dimension split of a particular region.

Once you have selected the region, there are two ways to save the settings as a Macro.

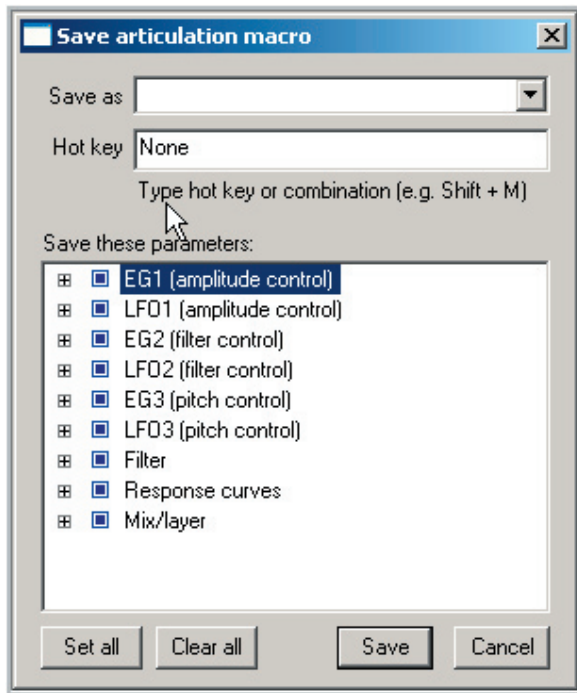


1. [Right-click] on the selected Velocity Split and choose "Save articulation as macro" from the context menu.



2. Or, simply click on the [Save] Macro button at the bottom of the screen.

3. This will bring up the “Save articulation macro window”



Save as:

Enter the name for the macro here

Hot key:

Type in a key on the keyboard here to create a hot key. You can also do a combination using the [Shift] key combined with any other key. This key or key combination will instantly apply this macro to any and all regions and dimensions that are selected in the editor.

Set All:

Selects all the parameters. If you plan to use most of the parameters, click this box. You can then uncheck individual parameters as needed.

Clear All:

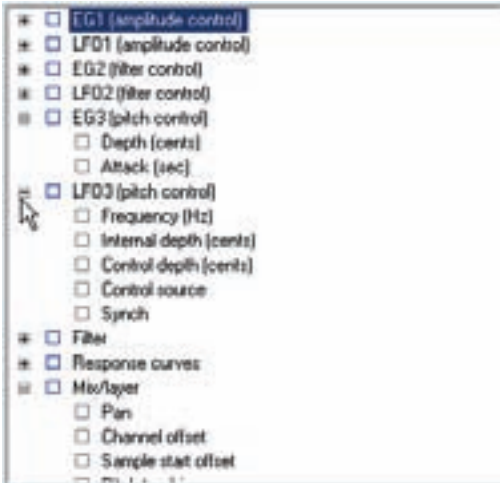
Clears the selection of all the parameters. If you plan to only use a small number of parameters, click this box. You can then check individual parameters as needed.

Save:

Once you are finished, this will save the new macro and add it to your list of macros.

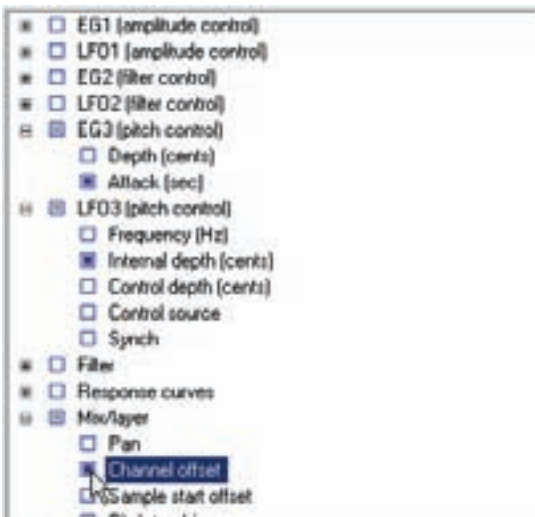
Selecting Parameters:

Click on the check boxes at the left to open and close the parameter lists for each category. These are the same categories that are found in the Instrument Parameters window.



The settings of a macro can range from a single parameter all the way up to every parameter and any combination in between.

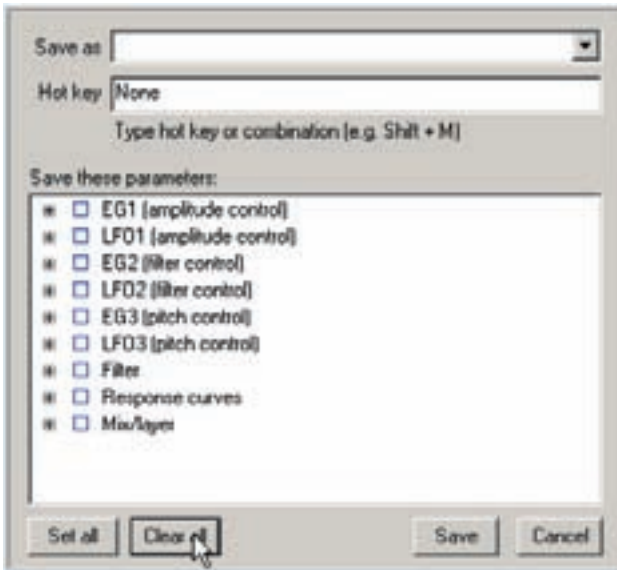
Click on the check boxes in a parameter category to select individual parameters.



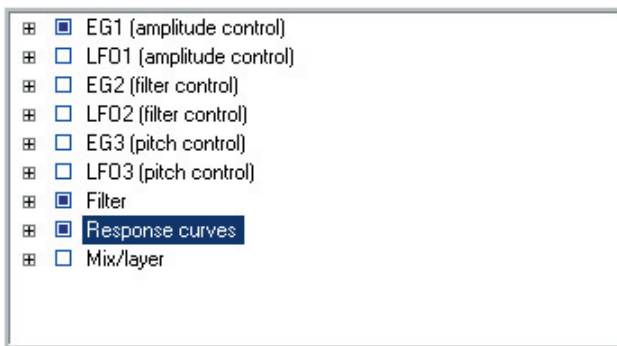
Example 1:

Lets say we have created our ideal amplitude envelope, response curve and filter settings.

1. Select a dimension that has these settings and choose to save the macro.
2. In the Save Macro window, click on the [Clear All] button. This will uncheck every single parameter.



3. Next, click on the checkboxes for EG1, Filter and Response Curves.



4. This will select all the parameters inside each of these categories.

5. Assign the macro a name and hot key if you wish and click on the [Save] button.

Anytime this macro is applied to other regions in the future, the EG1, Filter and Response settings in this macro will replace those settings on those regions but only these settings. The other categories will be left alone.

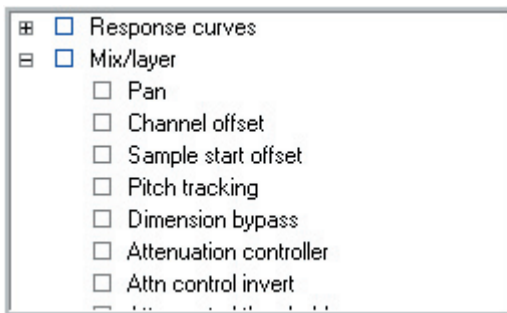
Example 2:

In this example, we will only save two specific parameters to a macro. (6dB boost and Sustain Pedal Defeat)

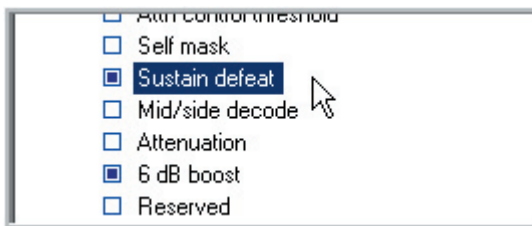
1. Again, select a dimension that has these settings and choose to save the macro.

2. In the Save Macro window, click on the [Clear All] button again to clear all the parameters.

3. Now, open up the Mix/Layer category.



4. Click on the 6dB Boost and Sustain Defeat checkboxes.



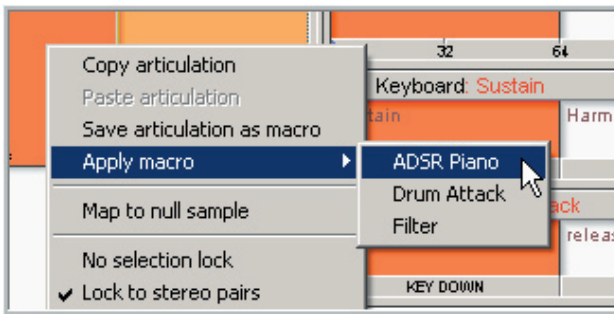
5. Give this macro a name and hot key and save it.

6. Anytime this macro is applied to other regions in the future, only these two settings will change. Everything else will stay the same.

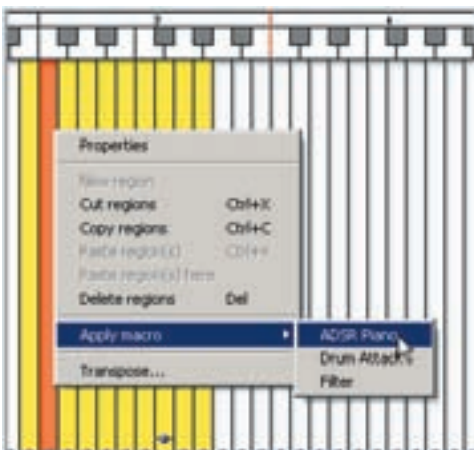
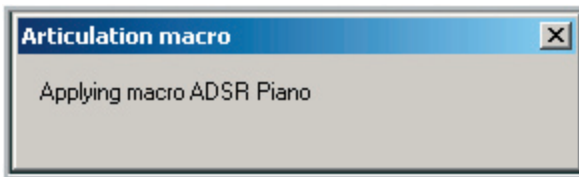
Applying Macros:

Once you have saved a macro or a collection of macros, you can apply any of them to any individual dimension, group of dimensions, region or group of regions.

1. Select all the velocities; dimensions and regions that you wish to apply a macro to.
2. Just like with saving macros, there are two ways to apply macros.
3. Right click on a velocity or dimension split and choose “Apply Macro” from the context menu. Then choose the macro from the list to apply.



4. The macro will then be applied to every selected region and dimension.



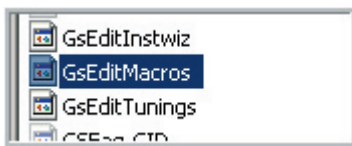
5. You can also right click on a region or group of regions and apply the macro from there.

Copying Macros to other machines:

It is very easy to transfer your collection of macros to another machine. This transfers the whole list and overwrites the existing macros of the machine you are copying them to.

The macro file can be found in the Tascam program files folder. It is called GsEditMacros

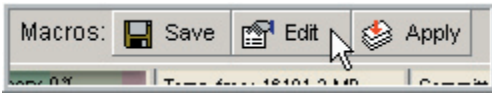
C:\Program Files\Tascam\Gstudio



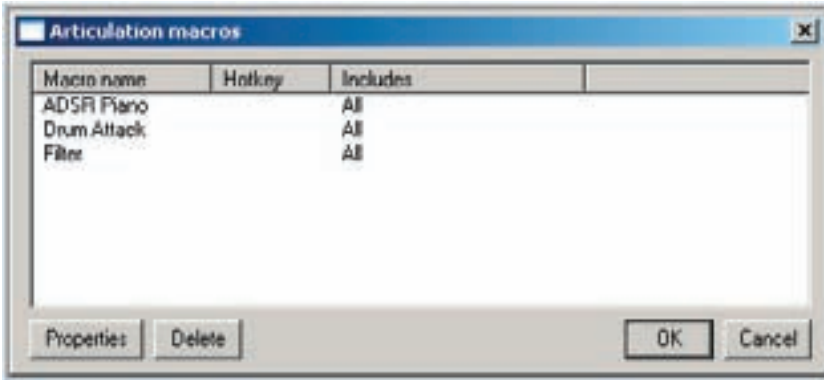
To copy your collection of macros to another machine, just copy this file from here and put it in the same folder on the other machine and replace the one that is there. The next time you open the GigaStudio Editor on the new machine, these macros will be waiting for you there.

Macro Edit Screen:

1. Click on the Macro [Edit] button at the bottom of the screen.

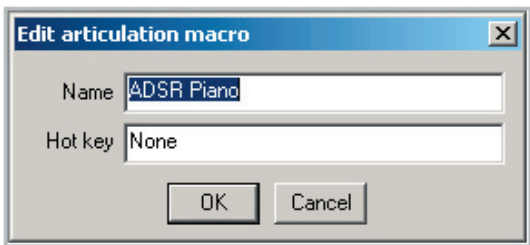


2. This will bring up the Articulation Macros Edit window.



3. In this window you can change the names and hot keys of the macros and delete them.

4. Double click on a macro or choose a macro and click on the [Properties] button to edit the Name and Hot key. Rename it and change or add a Hot key and click on the [OK] button to apply the changes.



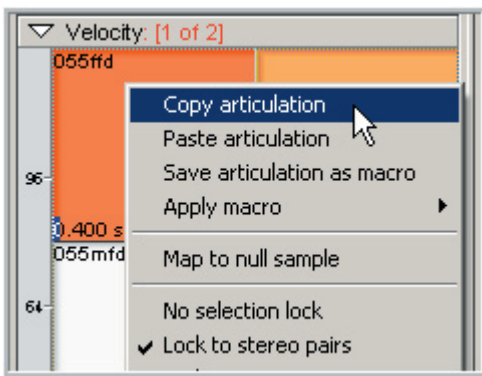
5. To delete a macro, select it from the list and click on the [Delete] button.

6. When you are finished making changes and deleting macros, click on the [OK] button to apply these changes. If you make a mistake, just click [cancel] instead of [OK]. This will discard any changes made and any mistakes.

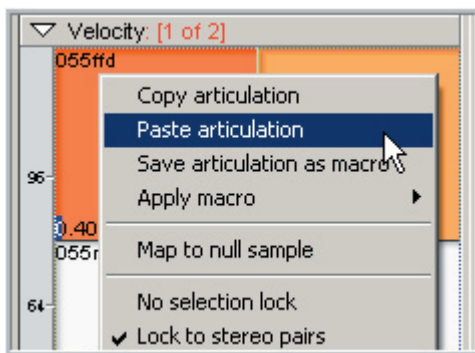
Copy & Past Articulation:

This command will copy all the parameters of a dimension and paste them elsewhere. It will overwrite all the parameters at once with the copied settings.

1. To copy & past an articulation, select a dimension that has the parameter settings you want to copy.
2. Right click on the dimension and choose “Copy articulation” from the context menu.



3. Choose the regions and dimension splits to paste the settings to.
4. Right click on one of the dimensions of the selected regions and choose “Past articulation” from the context menu.



5. This will instantly change all the parameters to match the copied parameters.

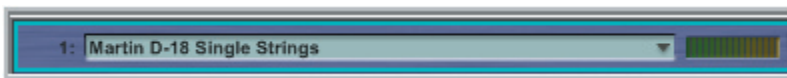
Setting up the iMIDI Rules

The iMIDI Tools are enabled in one of two ways:

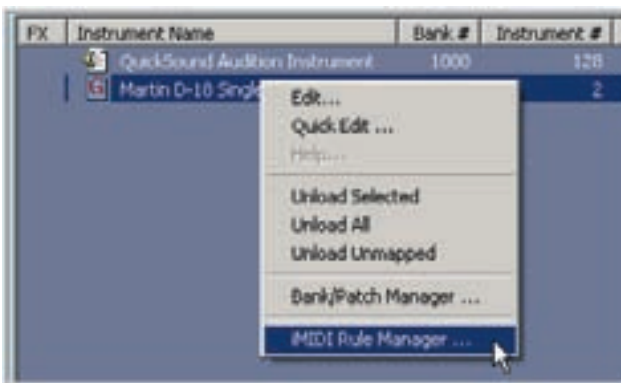
- In the GigaStudio Interface and saved as part of a performance file.
- In the Instrument Editor and built into the .GIG file.

GigaStudio Interface Setup:

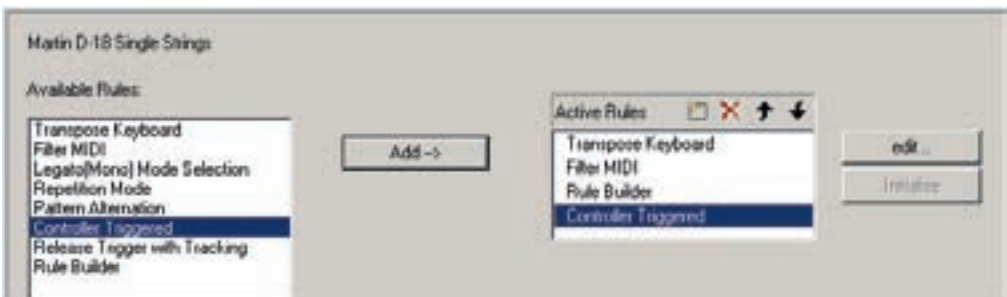
1. The instrument that you want to setup needs to be loaded into the GigaStudio first.



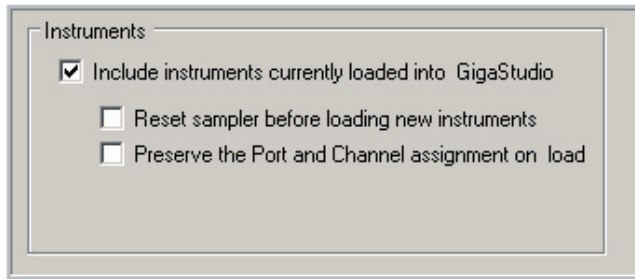
2. In the Loaded Instrument Panel, [right-click] on the loaded instrument and choose "iMIDI Rule Manager..." from the Context Menu that comes up.



3. Add, Initialize & edit your iMIDI Rules of choice. Click on [OK] to apply the rule to the instrument.



4. Save the instrument as a performance instrument. Use the instrument performance option or custom performance settings to save just the Instrument settings with the performance.



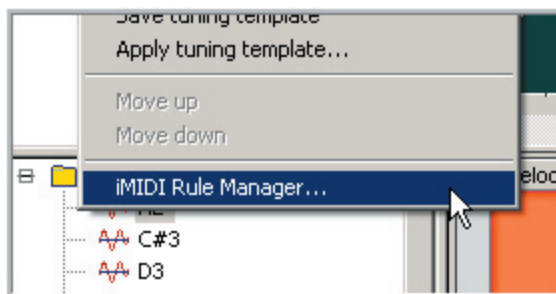
5. In the future, when this performance is loaded, the iMIDI Rules will be loaded along with the instrument. The iMIDI Rules are not part of the .GIG file though. These can be embedded as part of the .GIG file in the Instrument Editor.

Instrument Editor Setup:

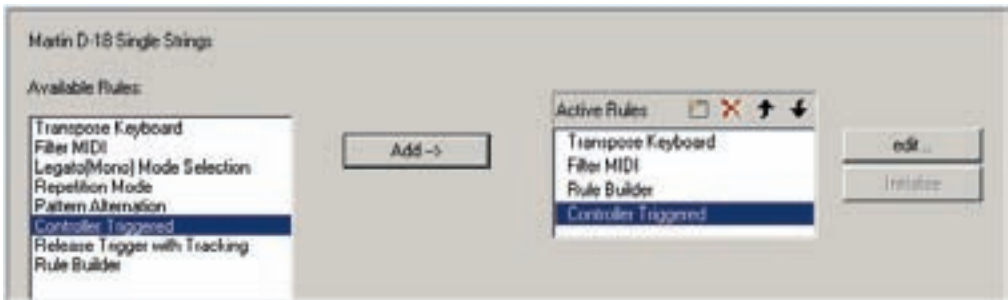
1. The instrument that you want to setup needs to be loaded in the Editor and Loaded to a MIDI channel and playable. Otherwise, the iMIDI Rule Manager will be disabled.



2. [Right-click] on the Instrument & Bank window and choose “iMIDI Rule Manager...” from the context menu that comes up.



3. Add, Initialize & edit your iMIDI Rules of choice. Click on [OK] to apply the rule to the instrument.

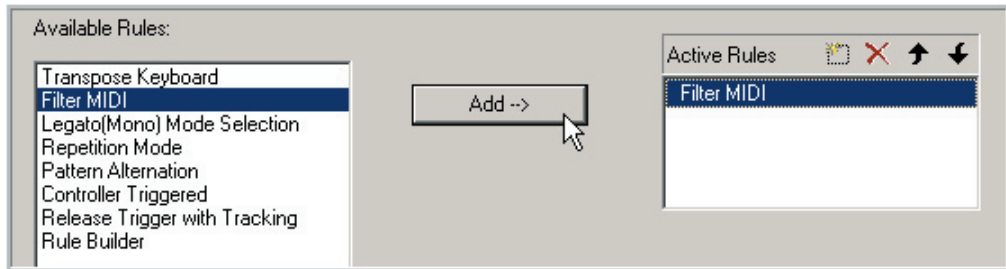


4. Save the .GIG file to embed these rules.

5. From now on, anytime this .GIG file is loaded, the iMIDI Rules will be loaded as well.

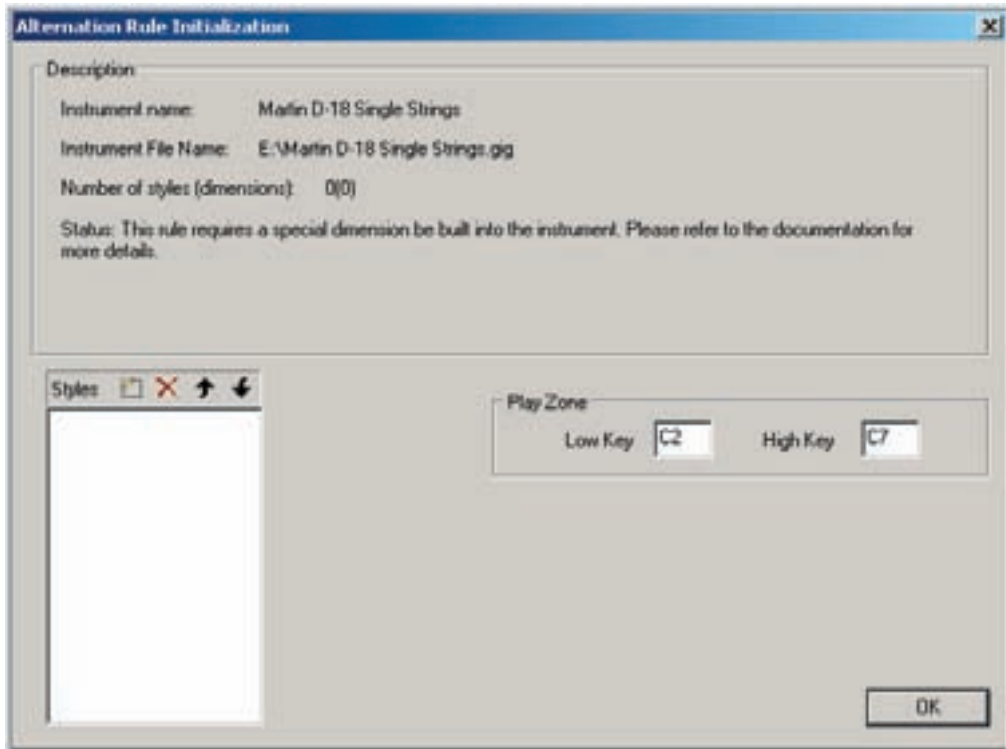
Adding, Initializing and Editing iMIDI Rules:

1. Select a rule from the “Available Rules” window and click on the [Add] button.

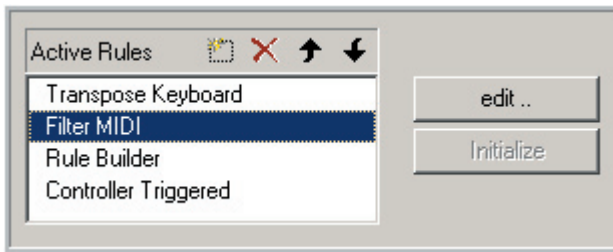


2. Depending on the rule, you may get an initialization screen. Fill in the necessary details in the initialization window and click [OK]. See the individual rule lessons for each rule for details on the initialize settings.

Pattern Alternator Initialize window:



3. Click on the [Edit] button to edit the settings of the rule. See the lessons on each rule for details on editing.



4. Click on the [X] icon to delete rules from the Active Rules list.



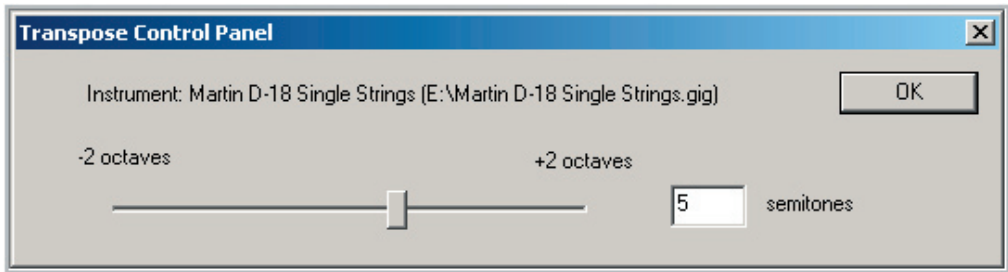
5. Use the [Up & Down] arrows to change the order of the rules in the Active Rules list.



6. When you are finished adding & editing rules, click on [OK] to close the Rule Manager window.

Transpose Keyboard

This rule is real simple. It transposes the keyboard range in half steps up to two octaves up or down.

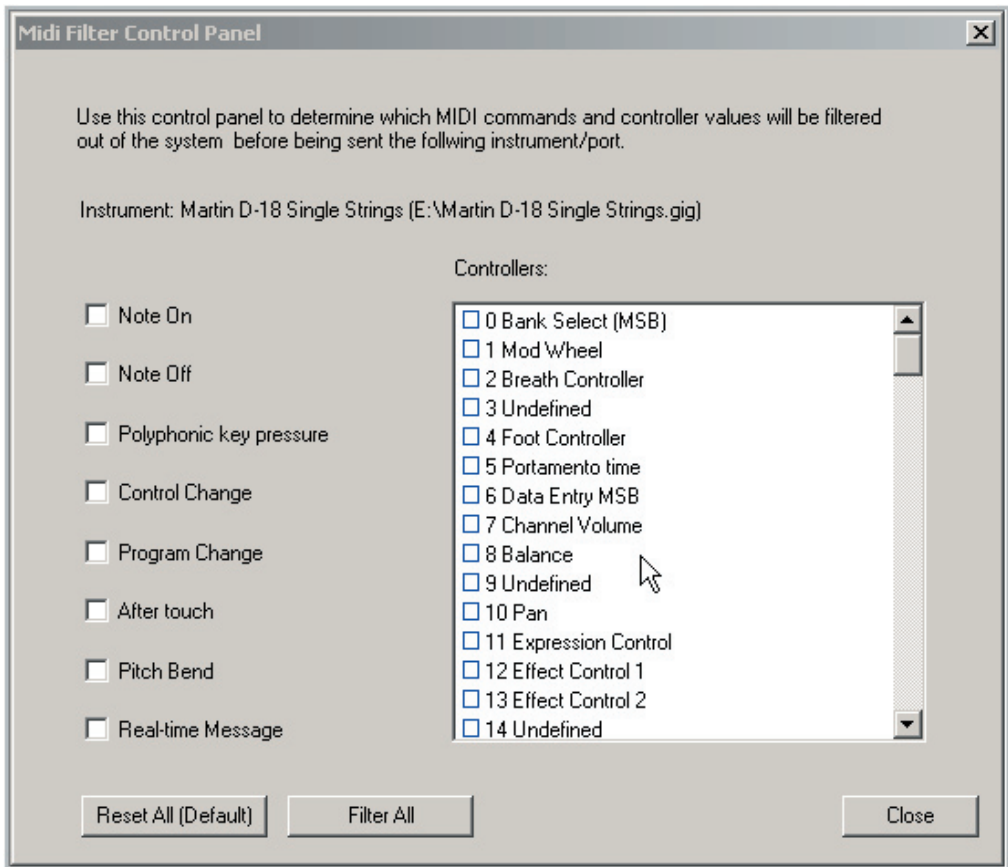


There are three ways to adjust this setting:

- Move the slider left to right with the mouse.
- Click on the slider and then use the left and right arrow keys on the computer keyboard.
- Enter the number in the number box.

Filter MIDI

This tool allows you to filter any type MIDI event or group of events so that the GigaStudio will ignore them. It can be real handy to be able to selectively ignore various MIDI events.



Click on all of the check boxes of any event that you want to be ignored by the instrument.

Use the scrollbar to access all the MIDI Controllers.

The [Reset All] button will uncheck all the check boxes.

The [Filter All] button will fill in all the check boxes.

Legato Mode Rule

“A special thanks to the Vienna Symphonic Library team and specifically Christian Teuscher, for certain rules of iMidi which have been modeled to emulate the original VSL Performance Tool v1 – in particular the Legato, Alternation and Repetition modes”

The Legato Mode tool allows you to play authentic legato lines in real-time on your keyboard. This tool creates the most stunning and realistic note-to-note transitions ever. These can be used for a long portamento slides to notes or for natural legato note transitions. The tool automatically takes care of the complex dimension switching in real-time as you play the keyboard.

This requires some very meticulous sampling sessions to capture all the intervals, speeds and loudness levels but the results are as realistic as can be.

The nice thing about this tool is that you only to play the keyboard a certain way. There is no need for Key-Switching or MIDI sequence editing. The tool does all the connecting work in real time as you play. All that is required is that you hold down one note while playing the next note in a phrase to connect those two notes. To avoid connecting the notes, you lift off a note before triggering the next note.

Examples:

There are some audio examples of what this tool sounds like to listen to. These can be found in the “Editor Tutorial Files” directory for this chapter. (Legato Mode Rule)

Trumpet Without Legato.wav

This is how most sampled instruments sound. There is no connectivity between the notes.

Trumpet With Legato.wav

Now we here the same instrument with this Legato Mode. Notice how the note connect together seamlessly and realistically.

Cellos Portamento Legato.wav

Here we use the longer portamento slides. You don’t want to over use this though because it can be unrealistic. Its best used as needed for dramatic or romantic slides to particular notes depending on the music context.

Instrument Components:

A Legato Mode instrument requires several types of samples.

- Default Sustain Samples:
- Up & Down Interval Samples to and from every note from half step to an octave leap:
- Release trigger samples:
- Alternate Sustain Samples:

These complex instruments can range from 500-2000 samples or more.

The Vienna performance libraries have been recorded to this extent and this tool will work with any 3.0 GigaStudio versions of the Vienna Legato instruments.

Using a Legato Mode Instrument:

If you have a 3.0 Legato Mode instrument, using it is very simple. A couple of legato instruments are included with the GigaStudio 3.0 package.

These are in the Vienna Symphonic Library demo instruments folder.

VSL-Viola Ensemble Legato.gig

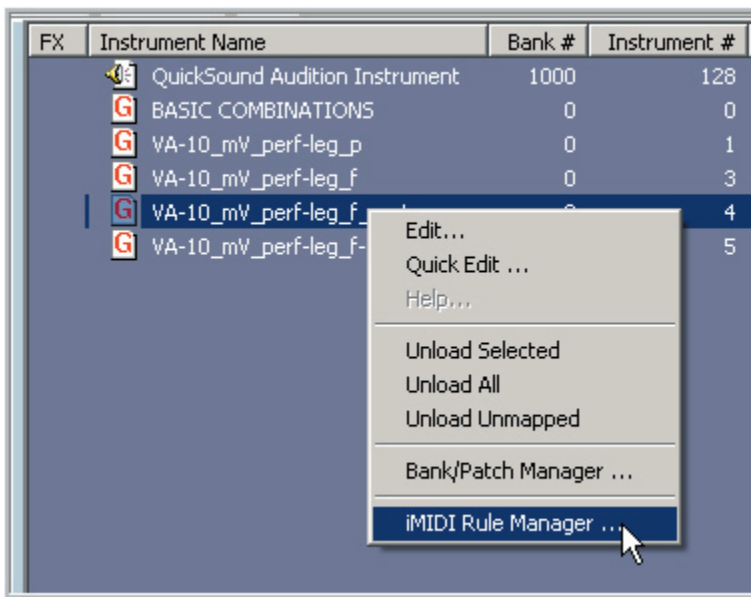
VSL-Clarinet Legato.gig

Load any of these instruments to a MIDI channel and start playing. Hold down a note while playing another note within an octave to hear the legato effect. Other than that, there are a couple of settings that you can work with to customize the feel and trigger alternative sounds.

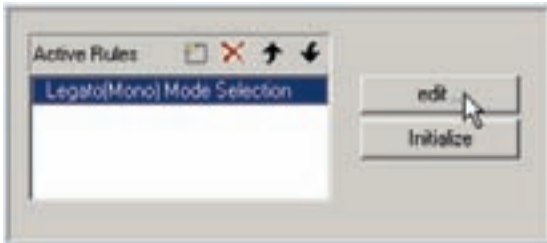
Settings:

There are some settings to customize how the Legato Mode works and to access some of the extra samples. To get to these, you need to open the iMIDI Rule manager.

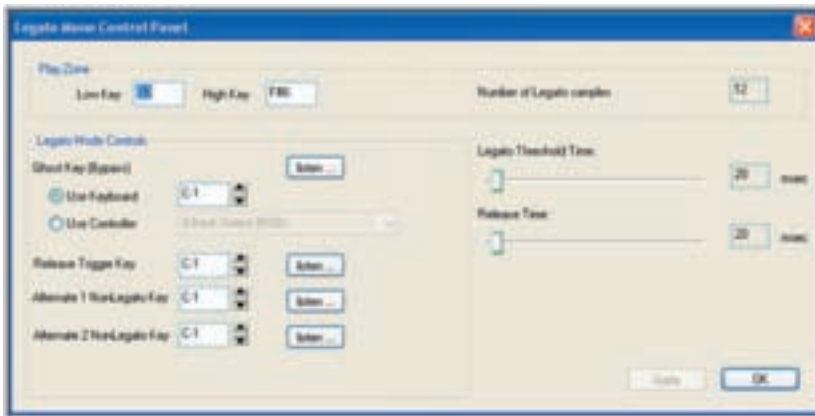
[Right-click] on the loaded instrument in the loaded instruments window and choose “iMIDI Rule Manager” from the context menu.



Click on the [Edit] button for the active Legato Rule to bring up the Legato Mode control panel.



Legato Mode Control Panel:



Play Zone:

The Legato Rule will automatically discern the key range of the instrument if the instrument is fairly simple and has one obvious key range of regions. If needed, you can change the note range here.

Number of Legato Samples:

Displays the number of Legato Articulations. For the time being this will always be 12.

Ghost Key (Bypass):

This controller will mute the Default Sustain samples until you release it. This function makes it possible to start a legato passage with any other articulation from another MIDI track. For instance from a crescendo diminuendo or sustain with a harder attack. The key is released when you want to slide to a note.

Keyboard: Set the MIDI key that will bypass the default starting note.

MIDI Controller: Use a MIDI controller instead of a MIDI note.

Release Trigger Key:

Triggering this Key will allow you to have the last note of a phrase end with a special release sample. Press the trigger note once the last note is played. The release trigger sample will play when you letup.

Alternate Non-Legato Key 1 & 2:

These keys provide alternate sustaining samples when pressed. You can toggle between the default sustain these alternate sustain articulations by pressing these keys between notes. This is good for repeating the same note within a phrase. Instead of triggering a fresh starting note, you can trigger one of these alternate samples.

Legato Threshold Time:

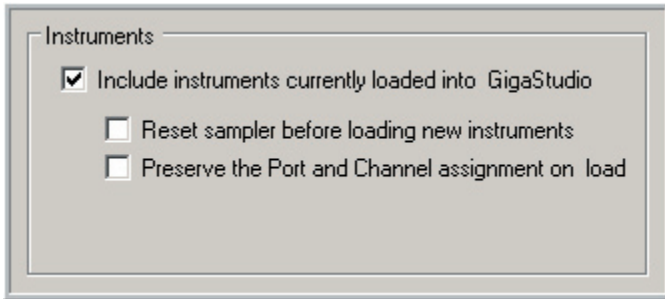
This setting can help the Legato Mode tool adapt to your performance technique on the keyboard. The threshold sets the time in which the tool will recognize two consecutive notes as a legato transition. Experiment with this setting until it works best for you. Ideally, the Release Time and Threshold Time should be set to the same value.

Release Time:

This sets the delay time of the note-off. This value should match the Legato Threshold setting.

Saving the Settings:

To save these settings so that they reload with the instrument, you need to save a custom instrument performance.



That performance will then load this instrument with these settings. If you were to just load the .GIG file again without using the performance, then the default settings will be loaded again instead.

If you would prefer to hardwire these settings into the .GIG file you can do that too.

- Open the .GIG file in the Editor.
- Then [right-click] on the Bank/Instrument Window on an instrument and choose the iMIDI Rule Manager from the context menu.
- Make the settings as before and then save the .GIG file.

Then whenever the instruments of this .GIG file are loaded, these user settings will also be remembered.

Mapping & Creating a Legato Mode Instrument

Required Samples Articulations:

Default Sustain Samples:

You need some basic long sustaining samples to serve as your default sample. This is the articulation that plays first before sliding to another note.

Release Trigger Samples:

If you want to have the natural sound of the instrument release or some natural room or hall ambience, you will need to create some standard release trigger samples. This is usually done by creating a copy of the sustain samples and then deleting everything except the tail. Release samples are optional.

Alternate Samples:

There is room in a Legato Mode instrument for two alternate variations for the sustaining samples. Alternate Samples are optional.

Legato Samples:

To do a complete Legato Mode instrument, you will need recordings of the instrument sliding to and from every interval for every note. The recording starts on the original note, then slides to the interval and holds the note. The length of this hold should match the Default Sustain Samples. The samples are then trimmed right at slide leaving a little bit of the original note in the samples. Like the release trigger samples, a little experimenting will be necessary to get the right sound.

To save sample space & recording time, you can skip every other note or every third note as is done with other samples. You don't want to go further than every third note though or the timing of the slides will be too noticeable.

The end result needs to be 24 folders of legato samples.
12 Up and 12 Down.

Sample Articulation Order:

To create a Legato Mode instrument, you need to have these articulations mapped in a certain order, using a 32 split Smart MIDI dimension split.

The best way to create this is to start by creating individual instruments for each articulation. (Sustain, Release, Alternate 1 & 2, Legato up x 12, Legato down x 12)

Then use the Combine Tool to assemble them in the proper order.

32 Splits-Smart MIDI dimension:

01 Legato Up 1 (half step)	17 Legato Down 1 (half step)
02 Legato Up 2 (whole step)	18 Legato Down 2 (whole step)
03 Legato Up 3 (minor 3rd)	19 Legato Down 3 (minor 3rd)
04 Legato Up 4 (Major 3rd)	20 Legato Down 4 (Major 3rd)
05 Legato Up 5 (Perfect 4th)	21 Legato Down 5 (Perfect 4th)
06 Legato Up 6 (dim 5th)	22 Legato Down 6 (dim 5th)
07 Legato Up 7 (Perfect 5th)	23 Legato Down 7 (Perfect 5th)
08 Legato Up 8 (minor 6th)	24 Legato Down 8 (minor 6th)
09 Legato Up 9 (Major 6th)	25 Legato Down 9 (Major 6th)
10 Legato Up 10 (minor 7th)	26 Legato Down 10 (minor 7th)
11 Legato Up 11 (Major 7th)	27 Legato Down 11 (Major 7th)
12 Legato Up 12 (Octave)	28 Legato Down 12 (Octave)
13 Blank	29 Default Sustain
14 Blank	30 Alternate Sustain-1
15 Blank	31 Alternate Sustain-2
16 Blank	32 Release Trigger

The instrument then needs to be saved to disk and loaded to a MIDI channel in the Editor to add the iMIDI Rule to it.

Rule setup:

[Right-click] on the Bank Instrument window on an instrument and choose iMIDI rule manager from the context menu.



In the iMIDI rule manager, select and add the Legato rule.



This will bring up the Legato Mode initialization window. The settings in the initialize window are basically custom user settings. Enter some default settings and then click the [OK] button.

Do this for each legato instrument in the .GIG file if there is more than one.

Click the [OK] button to exit the iMIDI rule manager and apply the changes and save the .GIG file.

Now the Legato Mode tool is built into the .GIG file and it will always be enabled any-time the instrument or instruments from this file are loaded into the GigaStudio. The user just needs to load & play the instrument & adjust the various settings in the iMIDI rule manager as needed.

Pattern Alternator

The Pattern Alternator acts like an automatic key-switcher. It changes articulations on the fly as you play the notes on the keyboard. Every note you hit advances to another articulation instantly.

The order of the articulations is totally customizable by the composer. Key-Switches are very handy but it can be difficult to change them fast enough in real time for certain types of music. Round-Robin does this real time changing but only in a certain repetitive order. With the Pattern Alternator, you can have the advantages of both of these tools in real time.

Playing & Editing the Patterns:

Load the Vienna Symphonic Library “Bass Ensemble-Pattern Alternator.GIG” file from the Vienna Symphonic Library demo instrument folder and play some notes.

You will notice it automatically changes between all the articulations in order. This is the default setup when opening the instrument.

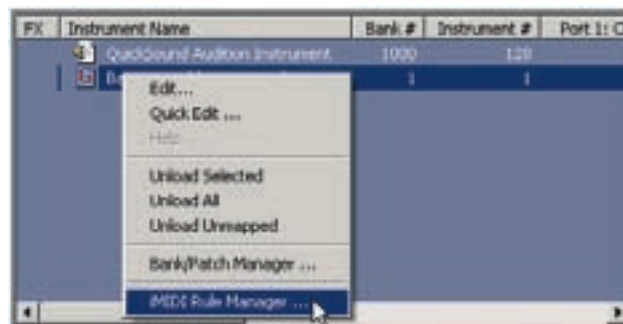
NOTE: Don't play chords at this point. It is not in polyphony mode at this point. Chords will jump several articulations until you put it in polyphony mode.

Staccato-Quarter Note-8th Note-Sustain-Sfz-pfp-Tremolo-Pizzicato.
Then it goes back to Staccato and starts again.

However, we can change and customize the order that these are triggered.

Opening the Pattern Alternator window:

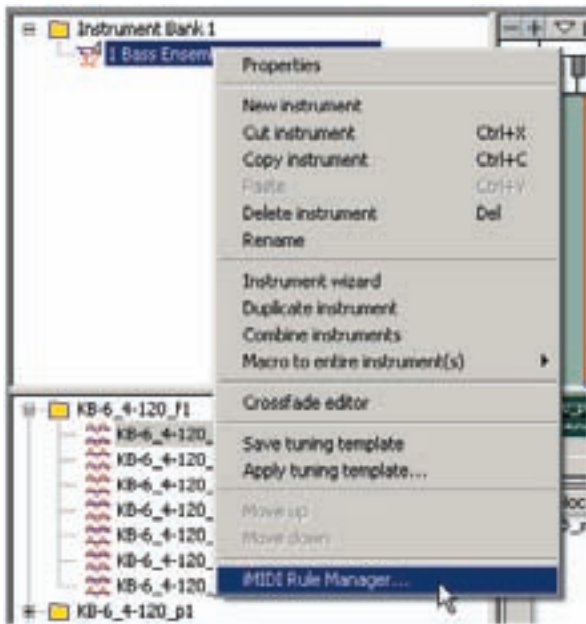
If you are in the GigaStudio interface, [right+click] on the Bass Ensemble-Pattern Alternator instrument in the Loaded Instruments window and choose “iMIDI Rule Manager” from the context menu.



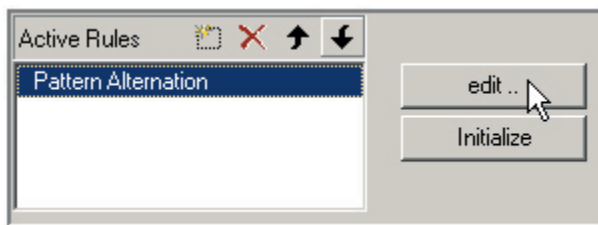
If you are in the Instrument Editor, Make sure the instrument is loaded and playable. (Green Light is On)



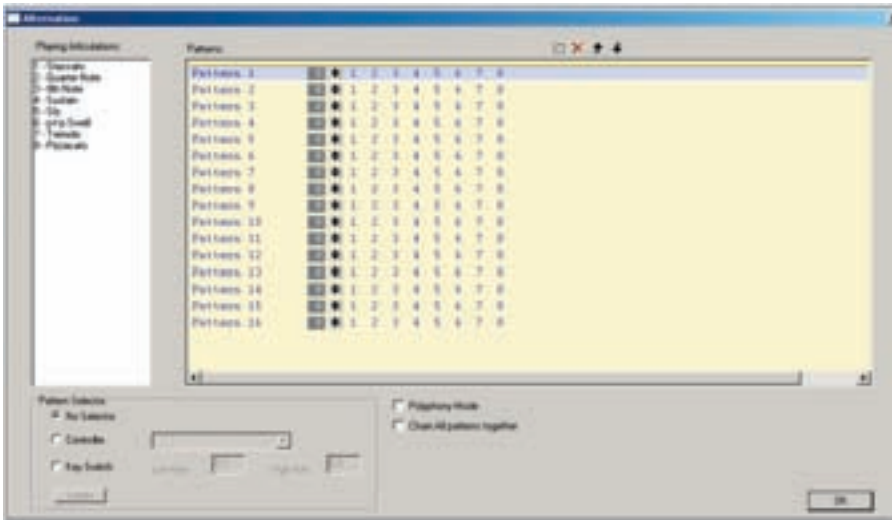
Then [right+click] in the Bank-Instrument area and choose “iMIDI Rule Manager” from the context Menu.



In the iMIDI Rule window you will see that the Pattern Alternator is already in the “Active Rules” area.



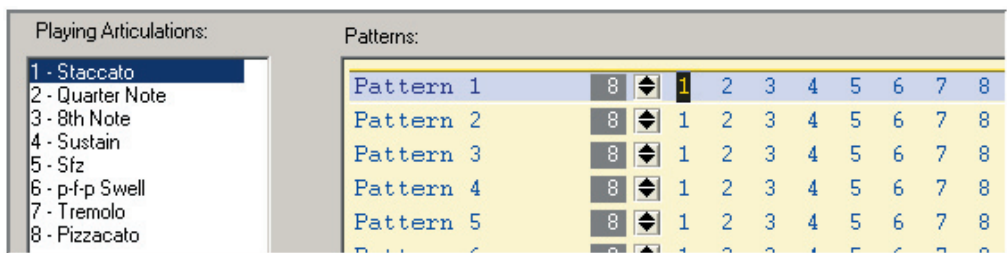
Click on the [Edit] button to bring up the pattern screen.



Watch the Patterns in Action:

Play the keyboard again and watch how the articulations advance from left to right each time you play a note in the top pattern. Also notice how the names of the articulations change in real time as well. This helps you identify which articulation is assigned to which number in the pattern.

The first note is staccato: When released it will advance to the next articulation in the list.



The next note played advances to the next articulation: (Quarter Note)

The screenshot shows a software interface with two main sections: 'Playing Articulations' on the left and 'Patterns' on the right. In the 'Playing Articulations' list, item 2 'Quarter Note' is highlighted with a blue bar. In the 'Patterns' table, the second column (containing the number 8) and the second row (containing the number 2) are highlighted in yellow.

Playing Articulations:	Patterns:
1 - Staccato	Pattern 1 8 1 2 3 4 5 6 7 8
2 - Quarter Note	Pattern 2 8 1 2 3 4 5 6 7 8
3 - 8th Note	Pattern 3 8 1 2 3 4 5 6 7 8
4 - Sustain	Pattern 4 8 1 2 3 4 5 6 7 8
5 - Sfz	Pattern 5 8 1 2 3 4 5 6 7 8
6 - p-f-p Swell	
7 - Tremolo	
8 - Pizzacato	

Then the 8th Note articulation:

The screenshot shows the same software interface. In the 'Playing Articulations' list, item 3 '8th Note' is highlighted with a blue bar. In the 'Patterns' table, the second column (containing the number 8) and the third row (containing the number 3) are highlighted in yellow.

Playing Articulations:	Patterns:
1 - Staccato	Pattern 1 8 1 2 3 4 5 6 7 8
2 - Quarter Note	Pattern 2 8 1 2 3 4 5 6 7 8
3 - 8th Note	Pattern 3 8 1 2 3 4 5 6 7 8
4 - Sustain	Pattern 4 8 1 2 3 4 5 6 7 8
5 - Sfz	Pattern 5 8 1 2 3 4 5 6 7 8
6 - p-f-p Swell	
7 - Tremolo	
8 - Pizzacato	

Then Sustain:

The screenshot shows the same software interface. In the 'Playing Articulations' list, item 4 'Sustain' is highlighted with a blue bar. In the 'Patterns' table, the second column (containing the number 8) and the fourth row (containing the number 4) are highlighted in yellow.

Playing Articulations:	Patterns:
1 - Staccato	Pattern 1 8 1 2 3 4 5 6 7 8
2 - Quarter Note	Pattern 2 8 1 2 3 4 5 6 7 8
3 - 8th Note	Pattern 3 8 1 2 3 4 5 6 7 8
4 - Sustain	Pattern 4 8 1 2 3 4 5 6 7 8
5 - Sfz	Pattern 5 8 1 2 3 4 5 6 7 8
6 - p-f-p Swell	
7 - Tremolo	
8 - Pizzacato	

This will continue through the rest of the 8 articulations and back to the beginning again. This pattern will repeat until you change to another pattern with a MIDI controller or a Key-Switch.

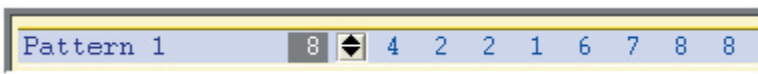
Changing the Articulation Order of a Pattern:

However, this is the default setting and it just rotates like a round-robin through the 8 articulations of this instrument in their order. You can change the order of these articulations by changing the numbers in the pattern.

Click on one of the numbers and use the [Up & Down] keys to change the number.



Use the [Left & Right] keys to select other numbers in the pattern.



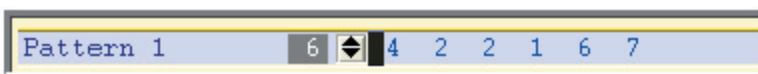
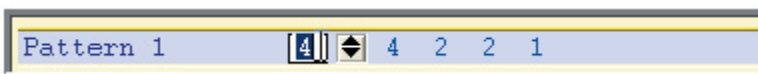
Change some of the numbers around and play the keyboard again and notice the difference in the order of articulations.

Changing the Amount of Articulations in a Pattern:

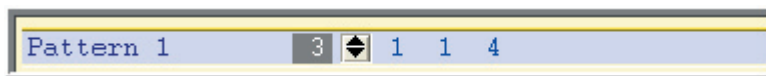
At this point, we have 8 articulations to a pattern. However, we can change that number by dragging on the articulation amount with the mouse.



Or you can click on the articulation amount and enter a number with the keyboard.



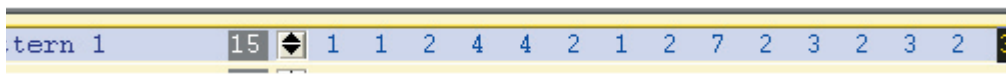
This enables us to have a simpler or more complex pattern. For example, you might just want a simple 3-part pattern that gives you two short notes followed by a longer note. In this case we would set the articulation amount to “3” and change the pattern to something like 1-1-2. (Staccato-Staccato-Quarter Note repeating)



This enables the Pattern Alternator to act like a customizable Round-Robin device.

Note: There is a Round-Robin dimension in the GigaStudio but it changes on a note-by-note basis. With the Pattern Alternator, the articulation changes every time you hit any note at all. With the Round-Robin dimension, the articulations only change for individual notes. (One note might be on the next articulation while the others that have not been played are still on their first.) The Round-Robin dimension is very handy for having a variety of staccato or drum samples but it is not useful for changing more drastically differing articulations like this current example instrument. To achieve the type of Round-Robin that most composers are familiar with, the Pattern Alternator is the way to go.

On the other hand, you might want a very complex pattern that covers a whole phrase or line of music. In that case you increase the articulation amount to as many notes as you need up to a maximum of 32. Then you change the articulations to cover your musical phrase note by note.

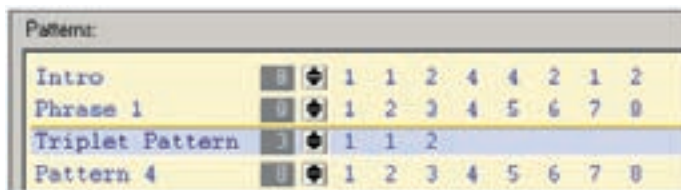


Multiple Patterns

So far we have covered a single pattern. However, we can have up to 32 of these patterns to work with. Click on the [New] button to add more patterns.



Each pattern can be given a custom name as well. Just [double-click] on the name and change it.



MIDI Controller Pattern Selection

You can use a MIDI controller or the keyboard (like a Key-Switch) to change between these patterns. In the pattern selector, select a controller or a Key-Switch range to change between the patterns.

No Selection:



MIDI Controller Selected:



Key-Switch Selected (Most Common method):

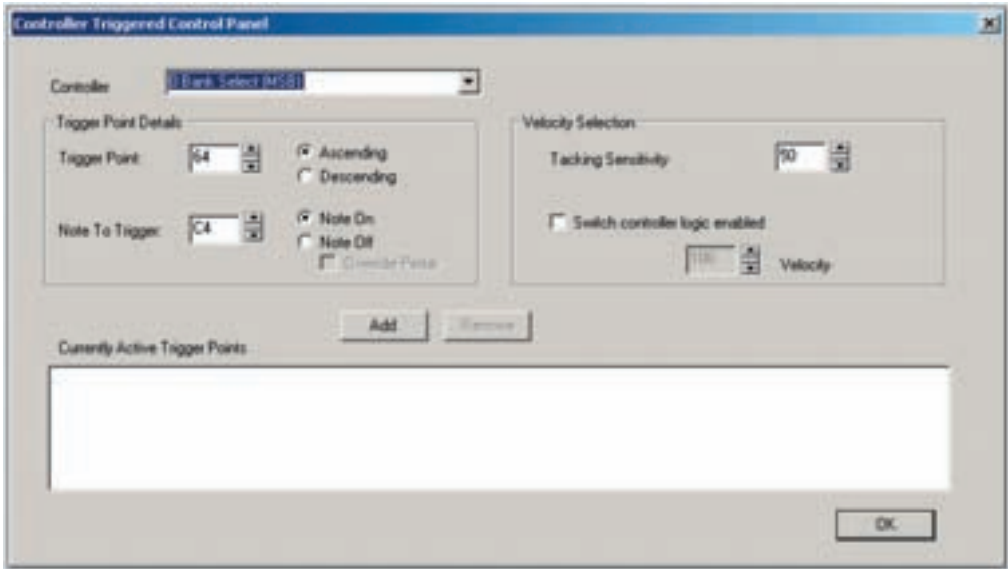


Once you have the patterns you want for a song, you can save an instrument performance (.GSI GigaStudio Instrument File) that only saves these changes without affecting the default instrument or overall performance setup of the GigaStudio. This allows you to save custom Pattern Articulation setups for each song you are working on for a particular instrument. When you compose, you can keep all your GigaStudio Instrument performances and your main overall GigaStudio Performance files in a special folder for each song you work on.

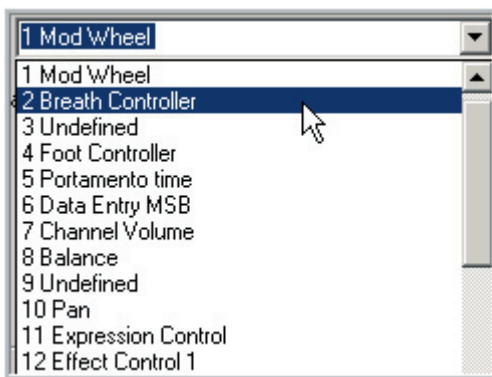
Details on creating your own Pattern Alternator instruments can be found in the Editor Documentation in the iMIDI Rules section.

Controller Trigger

The Controller Trigger allows any MIDI controller to trigger any MIDI note and for continuous controllers it is velocity sensitive. The faster you move the controller, the louder the sample plays back.

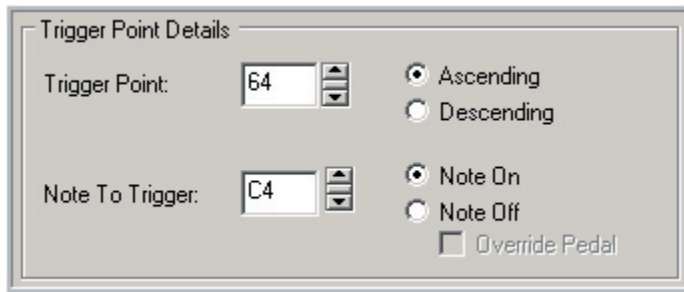


Controller:



Use the controller dropdown to select any of the available MIDI controllers.

Trigger Point Details:



Trigger Point Details

Trigger Point: 64 Ascending Descending

Note To Trigger: C4 Note On Note Off Override Pedal

Trigger point:

This sets the exact spot in the continuous controller range (from 0-127) that the trigger will occur. For example, you can have the Mod-Wheel trigger a note at its halfway point with a value of 64.

Ascending & Descending:

This determines whether the controller triggers the MIDI Note when it is moving forward or backward. You can use more than one rule to have the controller trigger the note from both directions.

Note to Trigger:

This sets the MIDI Note that will be triggered by the MIDI controller.

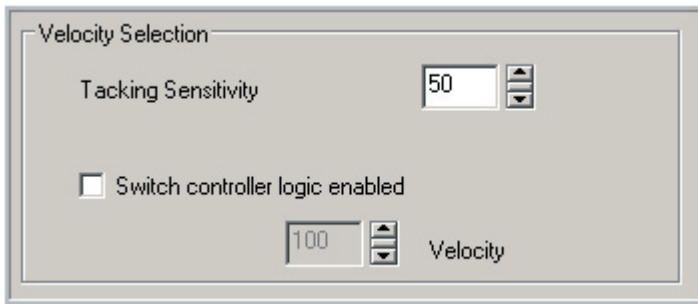
Note On & Note Off:

This sets whether the MIDI controller triggers a Note on or Note off.

Override Pedal:

This checkbox only shows up when you have selected “Note Off: Checking this enables the MIDI controller to perform a Note Off even if the sustain pedal is down.

Velocity Section:



Tracking Sensitivity:

When using a continuous MIDI controller, you can have velocity sensitivity. The faster you move the controller, the louder the MIDI note will play. Slower movements will play the note back softer. This setting allows you to tweak the velocity sensitivity of how the GigaStudio responds to the MIDI controller.

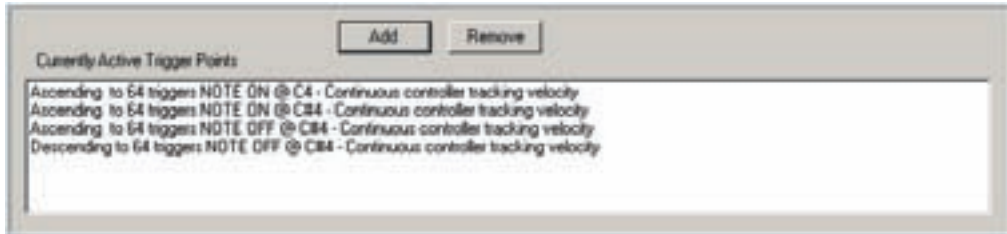
Switch Controller Logic Enabled:

This check box and Velocity setting are for pedal switch type controllers that are not continuous. Pedal switches are not velocity sensitive but we can set the trigger velocity here. If you setting up a switch pedal to trigger a note, check this check box and set the velocity level to trigger.

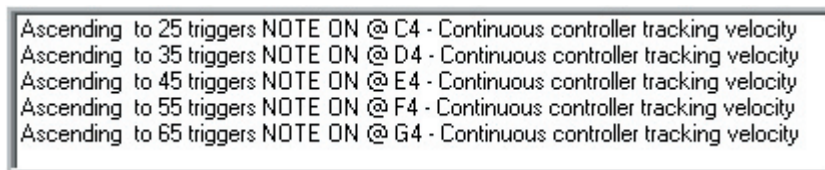
Add & Remove Buttons:

Once you have created a controller trigger, click on the [Add] button to add it to the list.

You can add several custom trigger controllers for some complex effects.



For example, here we have the Mod-Wheel triggering a small scale when pushed forward. (C-D-E-F-G)



Use the [Remove] button to delete any item in the list.

Release Trigger with Tracking

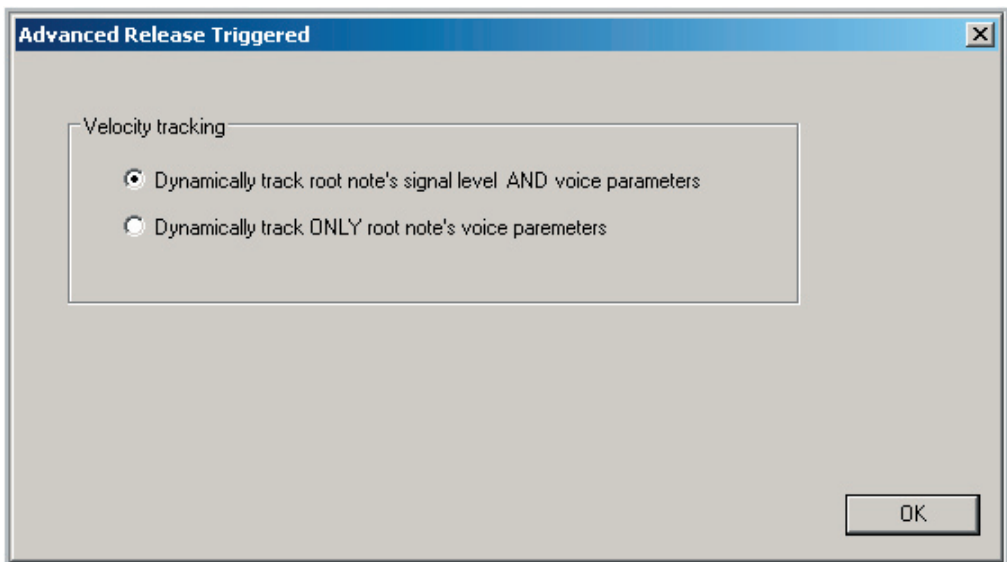
This is a simple looking tool that does some very fancy work.

- When using Release Trigger dimensions, this tool tracks the volume of the samples as they play.
- When the note is released, the release trigger plays back at an appropriate volume based on how loud the sample was when it was released.
- It can track the voice parameters such as the ADSR envelopes and base the release trigger playback volume based on the position of the envelope.
- It can also track both the parameters and the signal level.

This tool was created to deal with some of the sample libraries that rely on the real hall ambience of the room they were recorded in for a lush and authentic reverb tail.

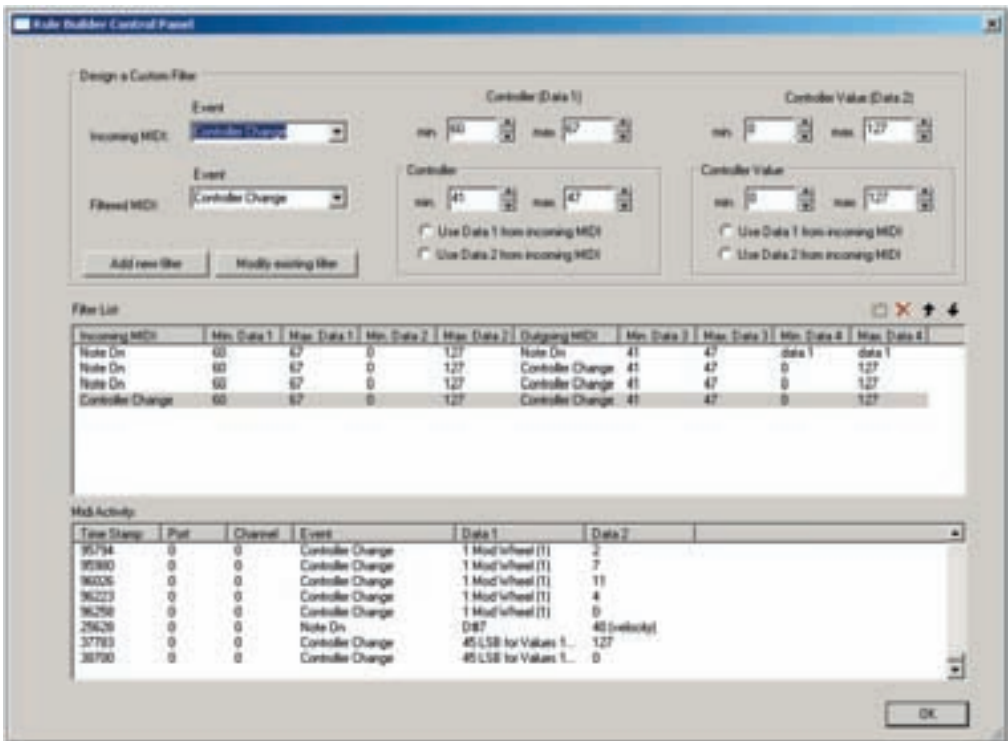
By putting the release of the recordings on the release trigger, the results are stunning. However, there is a problem with this method. Sometimes the samples are expressive and use diminuendos & crescendos or simply fade out. The problem comes in when you try to release the hall ambience when the sample has died out or is at a low point in its volume. This tool solves that problem by constantly tracking the signal level of each samples and setting the volume of the release trigger samples accordingly.

Check one of the options and click [OK] to enable this tool:



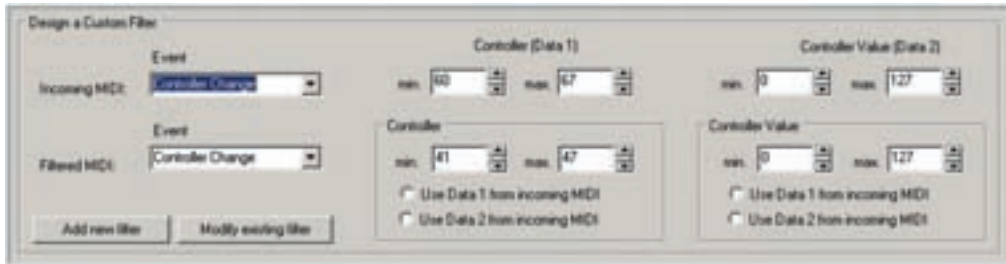
The Rule Builder

- This tool allows you to build custom sets of MIDI rules into an instrument.
- It can take any incoming MIDI event at any range and have it trigger any other kind of MIDI event with its own range of settings.
- You can also monitor incoming MIDI events in real time at the bottom of the screen.
- It is the equivalent of having a built in high end MIDI processor.
- The rule builder enables library developers to create custom MIDI responses and filters for their instruments.



Design a Custom Filter:

This is the section where MIDI rules are designed.



Incoming MIDI: Event

Select an incoming MIDI event type from the drop down list.

Incoming MIDI: Data-1

- This will change depending on the type of incoming MIDI event.
- For Note On & Off the data will be in Note Names. (C-1 – G9)
- For all the other controllers the data will be in MIDI control numbers. (0-127)
- Set a minimum and maximum value. Use the incoming MIDI data window at the bottom of this window to help figure out what Notes or MIDI controller numbers to use.

Incoming MIDI: Data-2

- This will also change depending on the type of incoming MIDI event.
- For Note On & Off the data will be Velocity Levels. (0-127)
- For all the other controllers, the data will be in MIDI control numbers. (0-127)
- Set a minimum and maximum value.

Filtered MIDI: Event

Select the outgoing MIDI event type from the dropdown list.

Use Data 1 from incoming:

This overrides the values entered here and lets whatever values are in the Incoming Data-1 section determine the range instead

Filtered MIDI: Data-1

- This will change depending on the type of Filtered MIDI event.
- For Note On & Off the data will be in Note Names. (C-1 – G9)
- For all the other controllers the data will be in MIDI control numbers. (0-127)
- Set a minimum and maximum value. Use the incoming MIDI data window at the bottom of this window to help figure out what Notes or MIDI controller numbers to use.

Use Data 2 from incoming:

This overrides the values entered here and lets whatever values are in the Incoming Data-2 section determine the range instead.

Filtered MIDI: Data-2

- This will also change depending on the type of Filtered MIDI event.
- For Note On & Off the data will be Velocity Levels. (0-127)
- For all the other controllers, the data will be in MIDI control numbers. (0-127)
- Set a minimum and maximum value.

Use Data 1 from incoming:

This works like before and overrides the values entered here and lets whatever values are in the Incoming Data-1 section determine the range instead.

Use Data 2 from incoming:

This works like before and overrides the values entered here and lets whatever values are in the Incoming Data-2 section determine the range instead.

Add New Filter:

Click to add the current filter to the Filter List. You can add several filters at once, each with their own custom settings.

Modify Existing Filter:

Choose an existing Filter from the Filter List to edit it. This avoids having to create an existing filter from scratch.

Delete & Up/Down arrows:

Select any Filter from the Filter List and delete it or move it up & down with these buttons.



Filter List:

All the filters that are created and added appear in this list. From this list, you can select, delete and reorder the filters. The menus in the Filter List reflect the various settings from the Filter Design area.

Incoming MIDI	Min. Data 1	Max. Data 1	Min. Data 2	Max. Data 2	Outgoing MIDI	Min. Data 3	Max. Data 3	Min. Data 4	Max. Data 4
Note On	60	67	0	127	Note On	41	47	data 1	data 1
Note On	60	67	0	127	Controller Change	41	47	0	127
Note On	60	67	0	127	Controller Change	41	47	0	127
Controller Change	60	67	0	127	Controller Change	41	47	0	127

MIDI Activity Window:

- This window tracks every incoming MIDI event and puts it in this list.
- This is real helpful for discerning the MIDI controller numbers. Just play a note or controller and look at the list to see what it is.
- To clear the list, close the interface and reopen it.

Time Stamp	Port	Channel	Event	Data 1	Data 2
20753	0	0	Note On	F#7	40 (velocity)
69367	0	0	Note Off	F#7	-
69579	0	0	Note Off	C#7	-
69390	0	0	Note Off	D#7	-
69471	0	0	Note On	D#7	40 (velocity)
60436	0	0	Note Off	D#7	-
5205	0	0	Note On	D#7	40 (velocity)
41950	0	0	Note On	C#7	40 (velocity)

Experiment away with this tool. The possibilities are endless!