TASCAM GigaStudio3 Version History V3.12 September 29, 2006

Installing a GS3 Patch Update

- It is NOT necessary to uninstall GigaStudio or use GigaClean before running the Patch Updater.
1. Download and run the GS3 Patch Updater. You will need your GS3 CD-Key to access the download page.
2. Restart

Changes in v3.01

Main App Maintenance Items

- System configuration text boxes now validated on Apply/OK
- Stacked instruments with release triggers are now working correctly
- Changes have been made that eliminate audio artifacts when stacking instruments
- A non-functional Debug Mode checkbox has been removed
- Dropping non-Giga related file on the MIDI Mixer could previously crash GigaStudio. Changes have been made to eliminate this issue.
- An out of date error dialog when clicking on CD drive in the DriveTree has been updated
- The shortcut Select File > Diagnostics now opens the correct window
- Various Unclear phrases/directions in the UI have been cleaned up
- Changes have been made to eliminate possible crashes upon loading a library after using preview
- GigaPiano-II .gsi files now operate correctly on all MIDI channels
- Clicking Cancel after opening the New File dialog will not affect mixer settings
- When Edit Wave is used and a variation saved (under a new name), Distributed Wave now replaces the cue in the Distributed Wave instrument list and updates QuickSound
- UI handling of topmost window has been improved.
- The selected channel in the MIDI mixer now correctly defaults to #1 after resetting with a stacked member instrument selected
- Incorrectly pressing "Restore Now" in the Registration screen will not corrupt the registration. NOTE: This only applies to new V3.01 disks. Users with 3.00 installed & registered should use the Registration Backup/Restore mechanism available in the GS3 License Manager

Feature Additions

- "Edit As" feature has been added to the Distributed Wave edit menu. This prompts for a new path, makes a copy of the selected wave at that path, displaces the original sample in Distributed Wave with the copy, and launches the selected wave editor against the copy. The original sample at this point is out of the picture.
- Support for VST plug ins with no UI has been added

Editor Changes

- Deleted split no longer reappears when changing dim controller to None
- Simultaneously saving/opening files has been disabled to avoid crashes until improvements can be made
- F2 shortcut has been implemented for sample renaming
- Blue editing dots no longer get stuck at the top of a region in the Editor
- Replace all for ALL folders has been implemented. The new option is on the right-click menu in the wave tree, "Replace all samples in all folders." Because the app would be processing a potentially large number of samples, each with several possible outcomes (normal replacement, file not found, file found but not a valid .wav file) there's a dialog similar to the one for "Convert wave pool format" where you can view the results.
  For each sample, the app searches recursively under the specified root directory for a file with the same name as the sample. If the original sample is not accelerated, the app searches for for *.wav first and then *.dxl; the other way around if the original is accelerated. If every sample in the instrument has a unique name, the replacement is straightforward. If there are multiple samples with the same name distinguished only by folder then use the option to require a subdirectory match. In the case below the sample called "021" in the "Velocity1" folder would only be replaced by a file called

  \<specified-root\>\Velocity1\021.wav

  or

  \<specified-root\>\Piano\Velocity1\021.wav

  As with the older feature for replacing a single folder, missing files are not considered a fatal error – the app just replaces the ones it does find and continues.

Changes in v3.02

ReWire

Problems when rendering audio while GS is ReWired into a DAW have been addressed. Please note the following:

- When using GS3 in ReWire mode, without MIDI port processing tools such as the VSL Performance tool or Garritan's Maestro Tool, the ReWire MIDI ports should be used. This will allow either real time or faster than real time ReWire audio rendering. Do not use the GS3 MIDI ports.
- When using GS3 in ReWire mode, with MIDI port processing tools, the midi track will be routed to the MIDI port processing tools and ReWire audio rendering must be done in real time mode. Please refer to your DAW's documentation on how to set this.

Below are DAW screen shots with descriptions showing how to set up audio rendering for use with ReWired GS3.

Cubase 2.2 / Nuendo 2.2
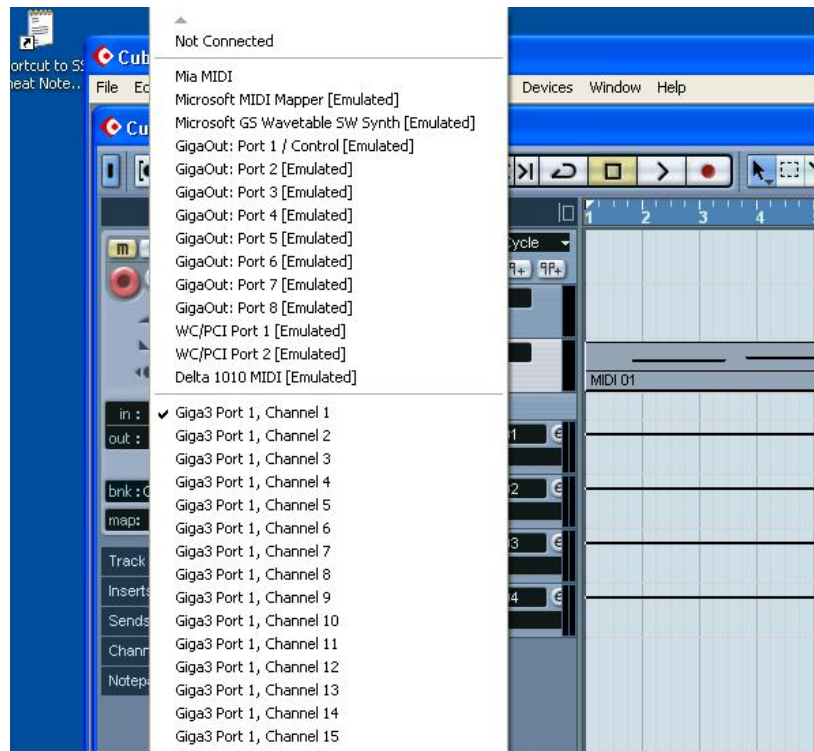
Cubase SX/Nuendo 2.2 Selecting the Giga Rewire port to route midi to GigaStudio
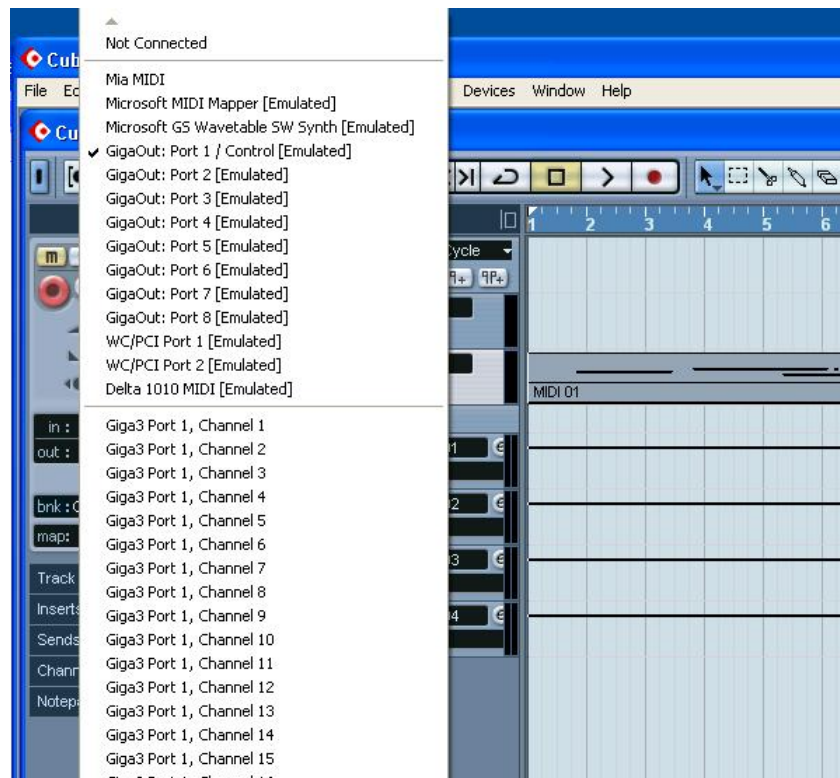
Cubase SX/Nuendo 2.20 Selecting the GS MIDI port to route midi to GigaStudio
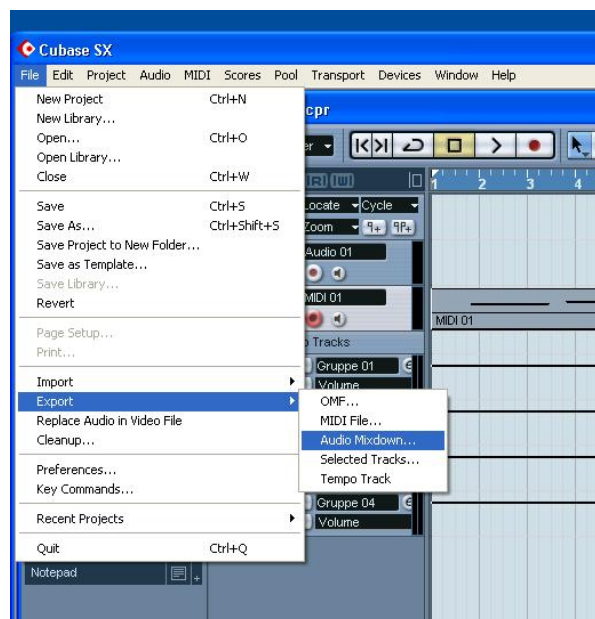
Cubase SX/Nuendo 2.2 Rendering a Giga ReWire track to an audio file or track
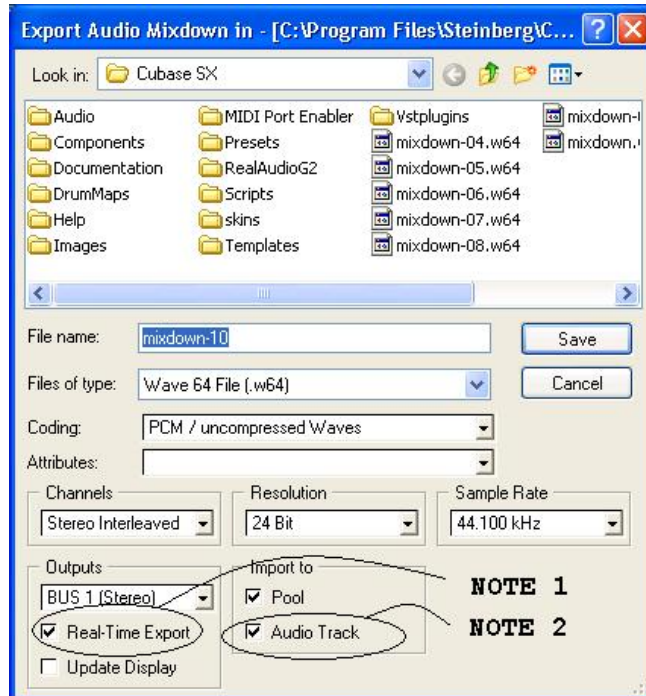
Cubase SX/Nuendo 2.20 Configuring how to render a Giga ReWire track.

NOTE 1: Use this setting to determine if the ReWire track is rendered in real-time as fast as the software will allow. This must be checked when using MIDI processing tools.

NOTE 2: Use this setting to determine if the rendered audio track is automatically imported into an audio track.

Sonar
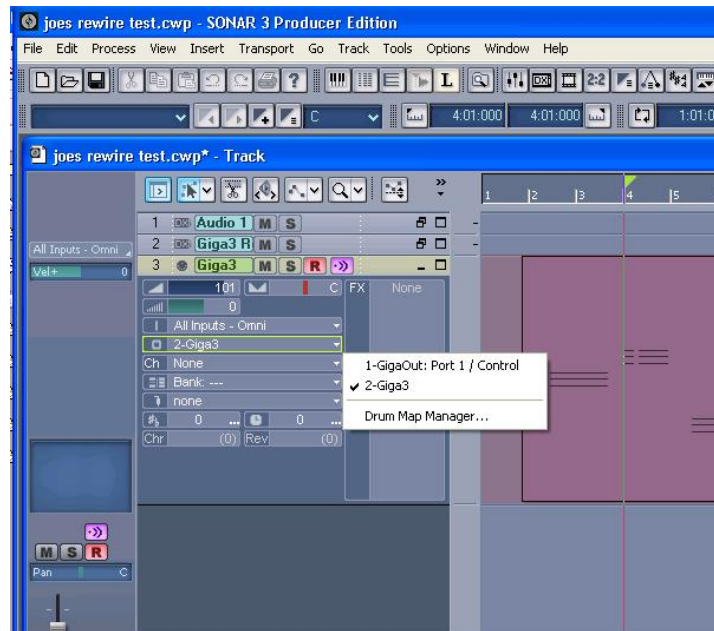
Sonar Selecting the Giga Rewire port to route midi to GigaStudio.
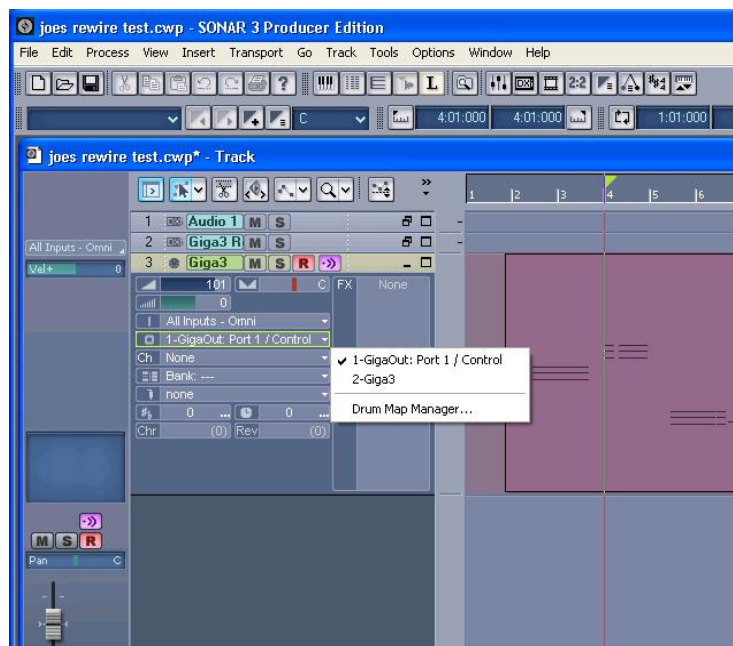
Sonar Selecting the GS MIDI port to route midi to GigaStudio
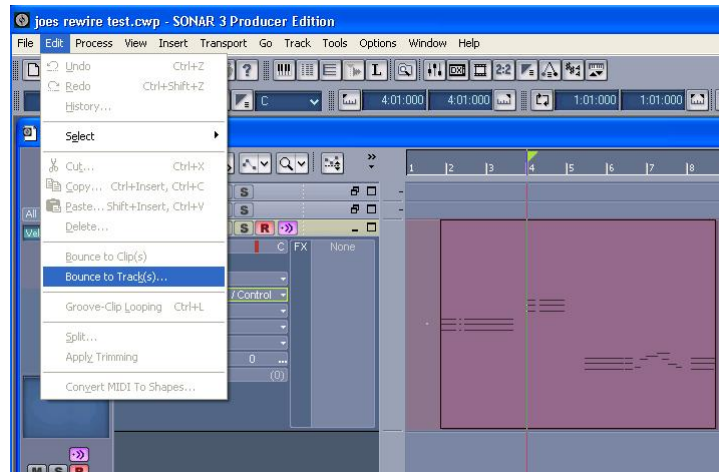
Sonar Rendering a Giga ReWire track to an audio track
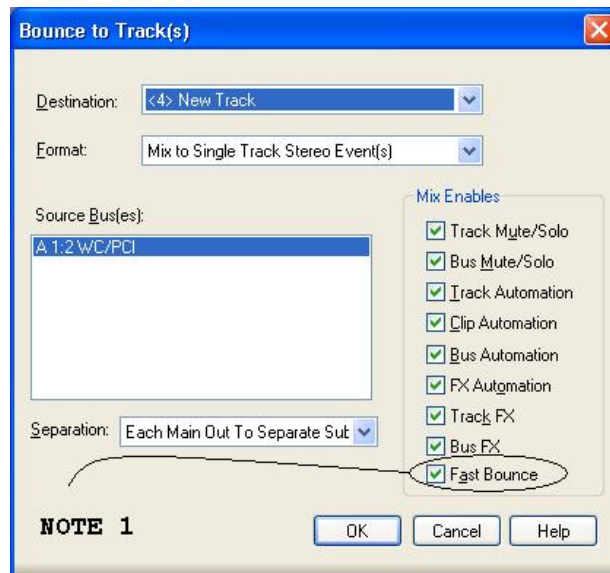
Sonar Configuring how to render a Giga midi track

NOTE 1: Use this setting to determine if the ReWire track is rendered in real-time as fast as the software will allow. This box should not be checked if using MIDI processing tools.

Changes in v3.03

Main App Maintenance Items

- Problems with missed program/patch changes on banks not equal to 0 have been corrected.
    - Currently if the GSIF2 MIDI In driver (low-latency) is being used and GS receives a patch change, the patch change occurs but will not be reflected in the UI until the UI has been refreshed.
    - If you try to patch change an instrument with built in convolution ON to or OFF of a channel, the engine will block that patch change.
- A problem with held notes before a program change not being turned off by the note off after the program change, leaving a stuck note, has been corrected.
- Error messages no longer get stuck under progress meters.
- MIDI Mixer Mute/Solo behavior has been improved.
- Crash when changing hardware settings while the GigaPulse UI is open has been fixed.
- Incompatibility with the TC PowerCore has been fixed.
- Correct show/hide cursor behavior in the QuickEdit UI has been implemented.
- NFX and VST plug-in bypass state is now correctly restored after a save. Existing projects that have had this problem must be re-saved using v3.03.

Enhancements

- The QuickSound search edit box is now the control that has UI input focus when GS is launched. This allows immediate entry without clicking in the box.
- The File > Save command, Save toolbar shortcut and CTRL+S keyboard shortcut are now always available. Previously, they were only available when an app parameter had changed. Since plug-ins do not communicate their changed state to the app, the project could not be saved after a plug-in parameter had been changed. It is now possible to Save any time.
- Changes have been made to improve compatibility with Hyper Threading enabled CPUs. However, due to the wide variety of PC hardware, there still may be some systems that exhibit instability. If you find your system unstable with HT, disable it and send us detailed system specs and a Diag report to TASCAM Operational Support. Further improvements are planned to be made in this area.

System Memory Configuration Manager

A new feature that has been added into v3.03, called the *System Memory Configuration Manager*.

This feature was added to help the user test and configure their system memory for optimal use with GigaStudio 3. Field reports have indicated that the default Windows XP settings are not optimal for GigaStudio 3 when the system is populated with 1 Gig or more of memory. The *System Memory Configuration Manager* allows the user to test and verify their system, as well as configure the memory settings.

Using the System Memory Configuration Manager

This new feature can be accessed via the GigaStudio System Settings control panel. This control panel can be invoked either from within the GigaStudio application or from the Windows XP Start Menu (please see your GigaStudio technical documentation for more details). However, we recommend that when testing and configuring the system memory that your invoke the feature from the Windows Xp Start Menu. The first step will be to start the *GigaStudio Configuration Manager*, see figure 1.
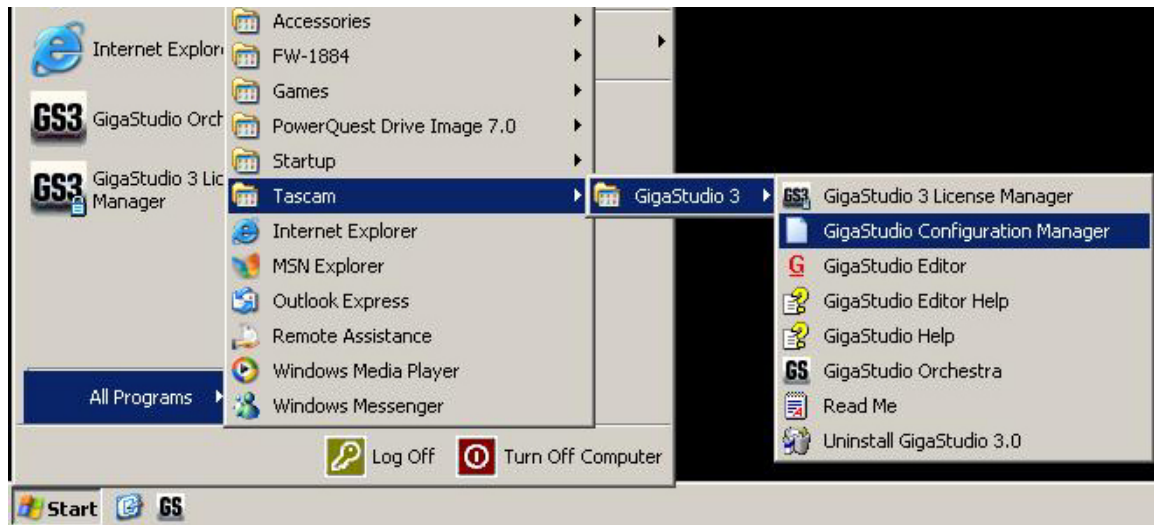

Figure 1

Next, select the *TroubleShoot* tab and hit the 'Configure' button under the System Memory Configuration section, see figure 2.
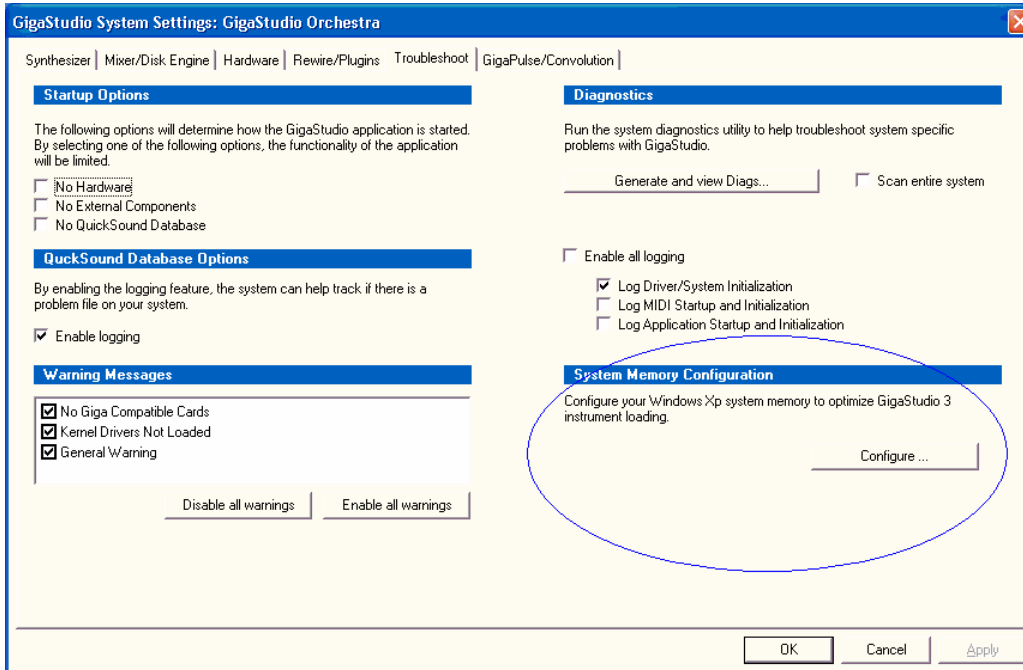

Figure 2

Finally you will be presented with the **System Memory Configuration Manager** control panel, see figure 3.
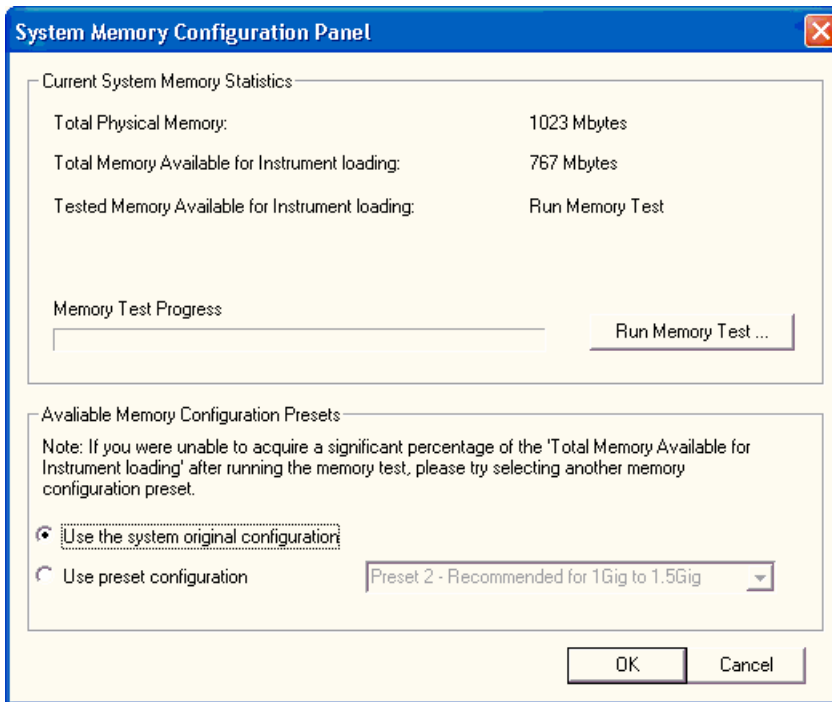

Figure 3

This feature was designed to aid the user in optimizing their system for the best possible Windows XP memory configuration. The first thing that should always be done is to test the current memory configuration. Simply hit the button 'Run Memory Test …' to start the test. You can cancel the test at any time by hitting the same button. This test will simulate how GigaStudio 3 will use system memory, and will report exactly how much memory it was able to secure from Windows XP.

On a system with 2Gig of RAM installed, when everything is properly configured, the maximum memory that Windows XP will allow the application is between 65% and 70% of the available memory.

Please see following table for an explanation the information displayed:

Total Physical Memory	This represents, in Mbytes, the total physical memory populated on your motherboard. This should be the same amount that Windows XP reports in the General tab of the System Properties control panel.
Total Memory Available for Instrument loading	This represents, in Mbytes, the total size of the memory available for Giga3 instrument loading. This represents the 100% of the 'memory' meter in the GigaStudio application.
Tested Memory Available for Instrument loading	This represents, in Mbytes, the total size of memory that was successfully acquired when running the memory test. The goal is to get this number as close to or equal to the 'Total Memory Available for Instrument loading'. This number will only fill in after running the test to completion. If you cancel this test before completion then this field will continue to display 'Run Memory Test'. If after running this memory test, this number approaches the 'Total Memory Available for Instrument loading' then there is no reason to change your memory configuration. Otherwise you will need to change the current memory configuration preset, reboot your system, and rerun the test.

Editor Changes

- The number of instrument layers that can be created has been increased from 8 to 127.
- UI improvements in Wave Pool Convert:
  - o In the scrolling results list, "Too Short" with a red X has been changed to "Too short for conversion" with a gray check mark. This more accurately shows that the file is still valid in an un-converted state, rather than convey the impression that a serious error has occurred.
  - o The Close button has been moved to a more convenient location and re-labeled "Close this window".
- Velocity switch to layer (or other dimension controller) conversion has been added.
- A crash when attempting to close the Editor during a file operation has been fixed.
- An incorrect error message is no longer displayed when opening a .gig file with more than 128 sample folders.

Changes in v3.04

Main Application Enhancements

- More improvements with Hyper Threading compatibility have been made, particularly with USB audio interfaces. This includes dual processor machines.
- Note: GigaStudio is coded to provide performance benefits on Hyper Threading enabled PCs in the following ways:
    - Projects with heavy VST usage will benefit.
    - HT may provide more polyphony than non-HT systems.
- Many improvements to the QuickSound database engine have been implemented to speed up searches. Also fixes were implemented to address apparent system hangs when using search delimiters such as "NOT".
- Compatibility with the UAD-1 DSP card has been added.
- Further improvements have been made to MIDI Mixer mute behavior when used with stacked instruments. Now stack masters act as mute masters without affecting the mute state of the stack members. Also the bright/dim illumination state of the buttons has been given greater contrast. The stack master continues to function as a solo macro, clearing any/all stack member solos when double-clicked.

Main Application Maintenance

- Previously, Aux send levels would always restore to -inf if they were saved OFF. This has been fixed, but after loading a pre-3.04 performance, all aux sends will default to OFF. You must check and manually turn on the aux sends you require. After a performance has been saved in 3.04 or later, it will remember the level and on/off status. GS2 performances loaded into GS3.04 will also have all aux sends turned OFF and will need to be re-saved with 3.04 or higher.
- Collapsed/expanded state of existing stacked instruments will be retained when loading further .gsi files that are also stacked instruments.
- Previously, some GigaPulse content would come up cut off at 3 seconds until Tail Model was clicked off then back on. This has been fixed.
- Incompatibilities between some MIDI keyboard controllers and iMIDI rules have been fixed. The issue was with controllers that send out a NOTE off using a NOTE on with velocity 0.
- When opening an Accelerated Wave instrument in Quick Edit, it is necessary to click the wave display area to cause the engine to draw the waveform. This is to optimize processor usage when drawing an accelerated waveform.
- Problems with 16-bit GSIF2 audio input have been corrected.
- Instruments with 256 Dimensions could previously cause a system crash. This has been fixed.
- Audio will now be muted when loading an instrument to prevent unwanted sounds being triggered by extraneous MIDI input.

- Previously, when opening a stack member instrument in the Full Editor, the stack would not be loaded upon closing the Editor & returning to GigaStudio. Now, the stacked instrument will automatically be reloaded upon closing the Editor and returning to GigaStudio.
- Problems loading projects containing VST plug-ins have been corrected. After updating to 3.04, it is necessary to rescan the system for VST plug-ins:
  1. With all other application closed, start the 'System Configuration Manager' from Start Menu|Programs|Tascam|GigaStudio 3|GigaStudio Configuration Manager.
  2. Select the 'Rewire/Plugins' tab
  3. Hit the 'Configure plugins' button.
  4. Hit the 'Rescan system for plugins ...' button.
  5. Hit the 'OK' button.
  6. Hit the 'OK' button.
  7. Run GigaStudio
- MIDI Mixer output assignments are now saved with a custom .gsp performance when the following is checked:
  - Include instruments currently loaded into GigaStudio
    i. Preserve the port and channel assignment on load
  - Include all MIDI Controller values
  - Include settings for the GigaStudio User Interface
    i. MIDI Mixer windows (all MIDI ports)
- The 'Save Performance as Default' check box in the File|Save dialog is now functioning correctly.
- FX UI problems when docking a floated DSP Station window have been fixed.
- Previously, EQ and Compressor settings on Group Channels were not saved with a performance. This has been corrected. However, performances saved with v3.04 cannot be opened on earlier versions of GS3 (ie. 3.03 or earlier).
- Issues when installing content only over a patch installer have been corrected:

  From a DVD/CD Install -

  If you install using setup.exe, and the version of the GigaStudio currently installed is newer, then you will be prompted with a message, indicating that you are about to install an older version, do you want to proceed? It also mentions that if you wish to install just content then you can proceed with the installation.

  If you install using the AutoRun, and select the 'Content Only' option then it will not prompt you and will go immediately to allowing the content-only installation.

- Previously, Group Aux Sends set to Pre would only send to the left side of GigaPulse. This has been corrected.

Editor Changes

- When opening an Accelerated Wave instrument in the Full Editor, it is necessary to click the wave display area to cause the engine to draw the waveform. This is due to processor requirements when drawing an accelerated waveform.
- Previously, opening an instrument in the Editor where not all regions have the same number of splits could crash the system. This has been fixed.
- Previously, when proportional drag mode was selected and multiple splits were selected, the Editor may have set some splits to incorrect values. This has been fixed.

Changes in v3.10

Special Notes:

- Files saved in v3.10 including performances (.gsi and .gsp), FX presets, FX banks, and gig files with convolution embedded, will take advantage of the new features of v3.10 and will only run on v3.10 or newer versions. Gig files without convolution embedded that are created in v3.10 will still open on pre 3.10 versions.
- It is strongly recommended that you rebuild your Quick Sound Database after updating to v3.10 from an earlier version.
- The first time you run GigaPulse after updating to v3.10, you may be presented with a dialog informing you that Bank Files cannot be found. Press Retry and navigate to your GigaPulse content folder to update the GigaPulse search paths.

New Features

iMIDI Templates

GigaStudio v3.10 now supports the use of templates to facilitate loading/saving iMIDI rules. A template is a user/developer configured rule that can be quickly loaded into the sampler and attached to an instrument or a stack. *The templates are stored on the hard disk in the /template folder under the GigaStudio 3 installation folder.* Templates are grouped into collections, with the default collection being called 'default' and stored into a file 'default.col'. If the user would like to create a new template it can either be saved in the default collection or create a new named collection. The collection file will always save to a file with the 'collection name'.col. The software will load all the collection of templates found in the aforementioned folder. This allows developers and users to easily share templates across systems, by simply installing/copying the .col file. In this way, a sound developer could provide a collection of controller mapping that are customized for their instrument/stack/gsi. The sound developer would simply install their .col file into the appropriate folder and the software would then allow the user quickly attach an iMidi template to the instrument/stack.

The template loading/saving UI is accessed via the 'iMIDI Rule Manager' interface. This template UI can also be accessed on stacks from the loader pane and from the Stack Properties window of a stacked instrument.

NOTE: Since there are rules for Instruments and Stack, not every template can be applied to every entity. The software will give you a visual indication and an error message if you try to load an incompatible template onto either a stack or instrument.
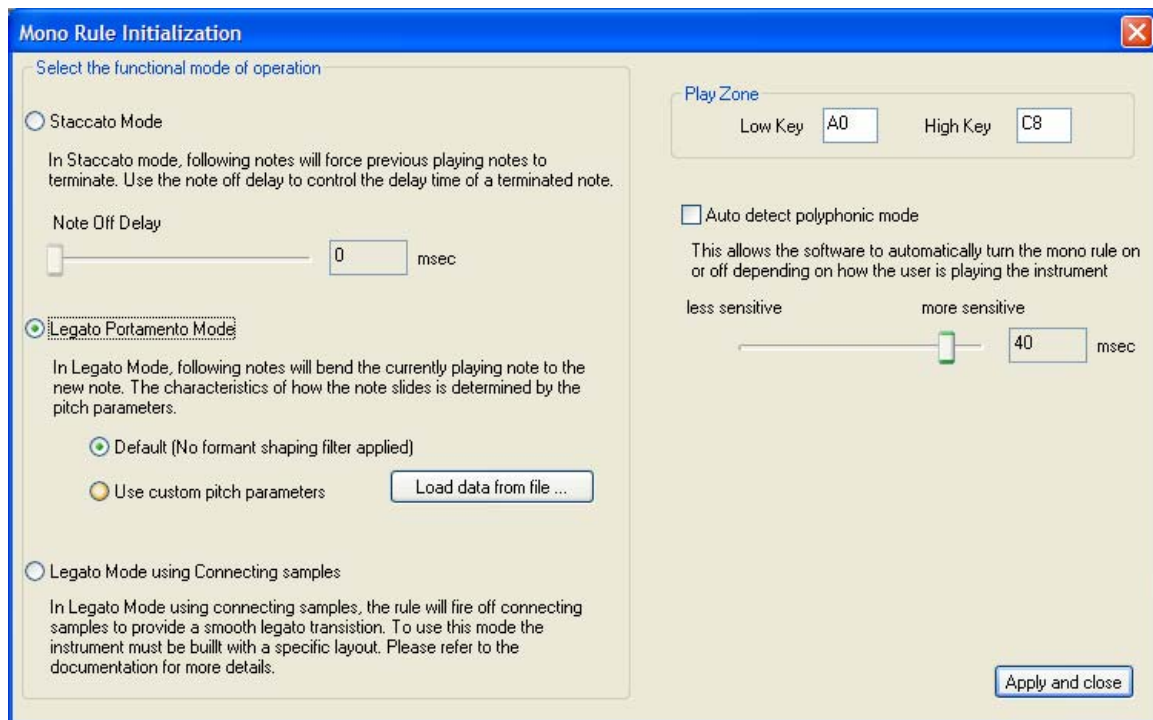
iMIDI Tremolo Rule

While this feature is designed for use by soundware developers, anyone can access it.
The Tremolo rule requires a Smart Midi processor dimension. It must first be determined how many splits that the dimension will need. Then all non-tremolo samples must be assigned to the first group of splits in the dimension. The only requirement is that there be at least 1 non-tremolo sample. The remaining splits would be used to lay out the tremolo samples. The only requirement being that there are at least 2 tremolo samples. The algorithm will round robin through the non-tremolo samples when the mod wheel (or any selected controller) is at a zero value, triggering a new non-tremolo sounds every time the musician strikes a note. When the mod wheel is moved to a non-zero value the algorithm will use the mod wheel to determine the rate at which to cycle through the tremolo sounds. If the mod wheel is moved while in tremolo mode the rate will track the changing controller.

iMIDI Mono Rule

The Mono rule has three functional modes: Staccato, Legato Portamento, and Legato with connecting samples. Following is a detailed description of all three modes of the Mono rule.

The Mono rule is configured using the Mono Rule Initialization window (shown below), accessed from the iMIDI Rule Manager.

After creating an instance of the rule in the GigaEditor, use the above configuration panel to determine the mode you wish to use for your instrument. All three modes share the two common features below:

***Playzone*:**
The playzone defines the musical keyboard region over which the rule will be applied. By default the software will initialize the playzone to be the entire valid region of your instrument.

***Auto detect polyphonic mode*:**
This will cause the software to automatically switch the mono rule on and off depending on how the user is playing the instrument. Using the sensitivity setting you can adjust the threshold at which this feature will activate.

Mono Rule : Staccato mode

When enabled, this rule causes following notes to force previous playing notes to cut off. Use the Note Off Delay control to vary the delay time of the terminated note.

Mono Rule: Legato Mode (Portamento)

The Legato Mode (Portamento) rule provides monophonic pitch sliding capability with or without a dynamic formant shaping filter, or Portamento Reshaping Filter (PRF). There is also a hybrid mono/poly mode whereby polyphonic notes played in chords are auto-detected by virtue of the note timing, yet concurrent with mono portamento playing.

Instruments that include a PRF may have an abbreviation such as "PRF" or "PRF poly" in their instrument name – in this later case suggesting that both mono mode portamento filtering and polyphonic note allocation are being employed.

GigaStudio Loaded Instruments panel:
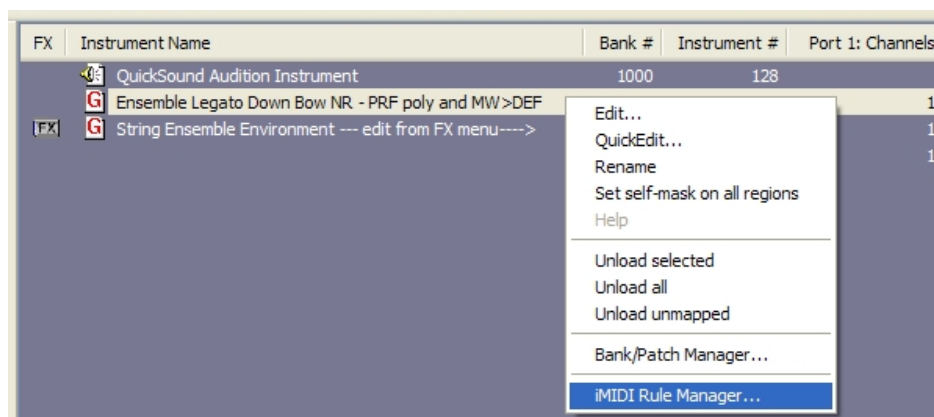
The portamento mono legato mode is built into the instrument by the instrument developer via the 'Mono Mode' iMIDI Rule.
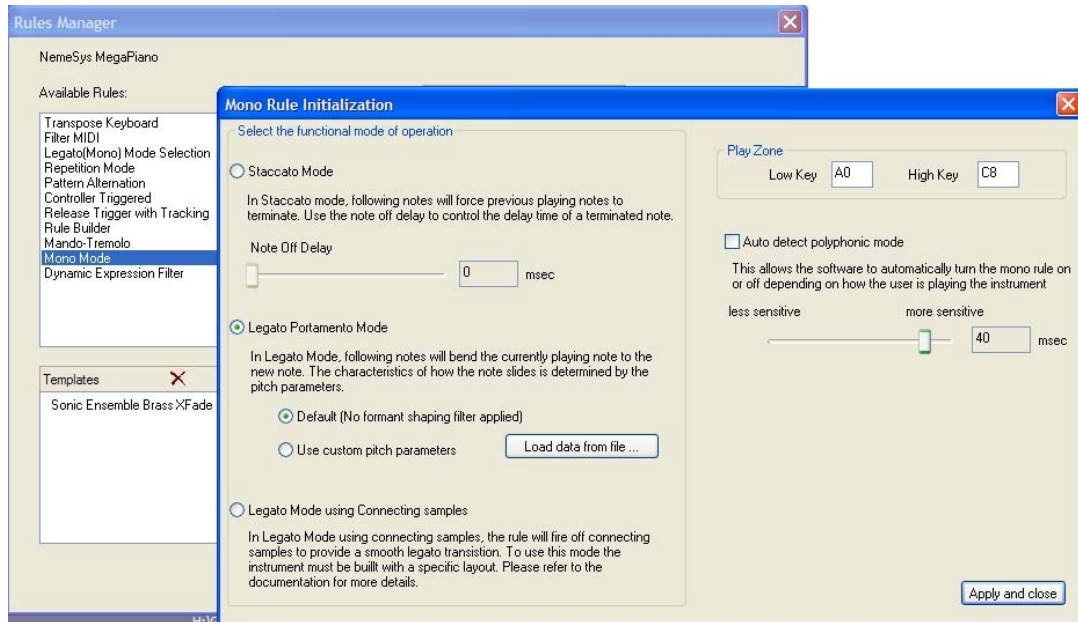
The Default case is basic mono portamento without formant shaping filters, and without any of the extended portamento controls. The Default case does however provide continuous control over portamento time by virtue of midi continuous controller #5 (Portamento Time).
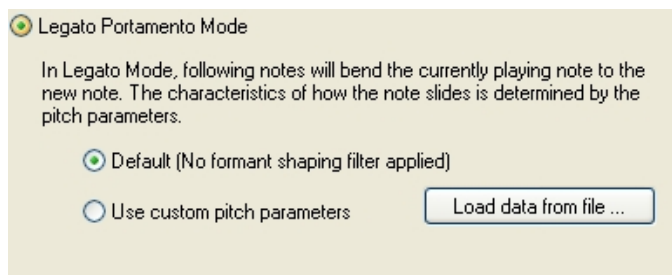
In GigaStudio, any of the three midi channel controllers can be assigned to continuous controller #5 (Portamento Time), replacing the default Volume, Tune, or Pan control.
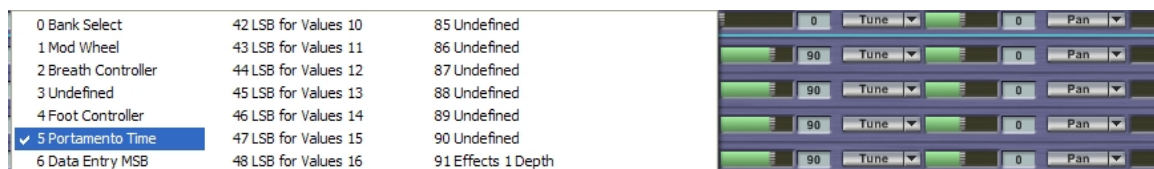
The extended portamento controls are specified by instrument developers by using the custom pitch parameters
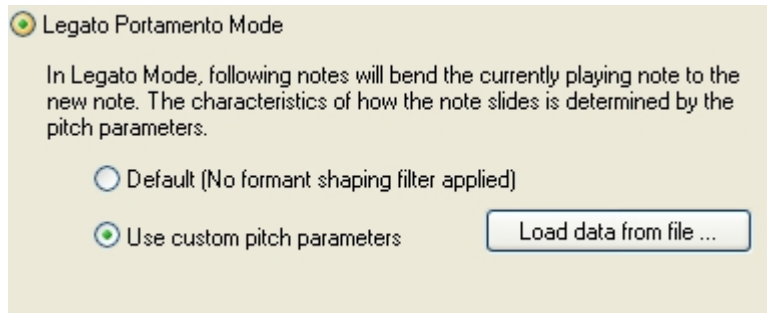
Portamento Reshaping Filter (PRF)
The PRF filter functionality is applicable ONLY to 24bit instruments. The other aspects of portamento are applicable to both 16bit and 24bit instruments.
The PRF filter employed in this mode provides a phase corrected, 7th order, morphing filter for shaping formants dynamically as the pitch changes. With appropriate custom PRF filter profiles created by the instrument developer, this filter can continuously morph frequency responses of notes as they are stretched beyond their natural range, both in the upward and downward directions. The filter is driven by the currently running pitch, and coefficients are morphed continuously as the pitch changes. The morphing response can be different for every note and every note interval upward and downward within the root note, and is assigned by the instrument developer.

Although accurate PRF responses can only be obtained by creating custom coefficients for every note and every interval by instrument developers, the user can also add basic PRF responses to their instruments. GigaStudio 3.1 includes a nominal set of filter responses for different instrument types. These morphing filter coefficient files can be added to any instrument via the 'Mono Mode' iMIDI dialogue using the 'custom pitch parameters' option.
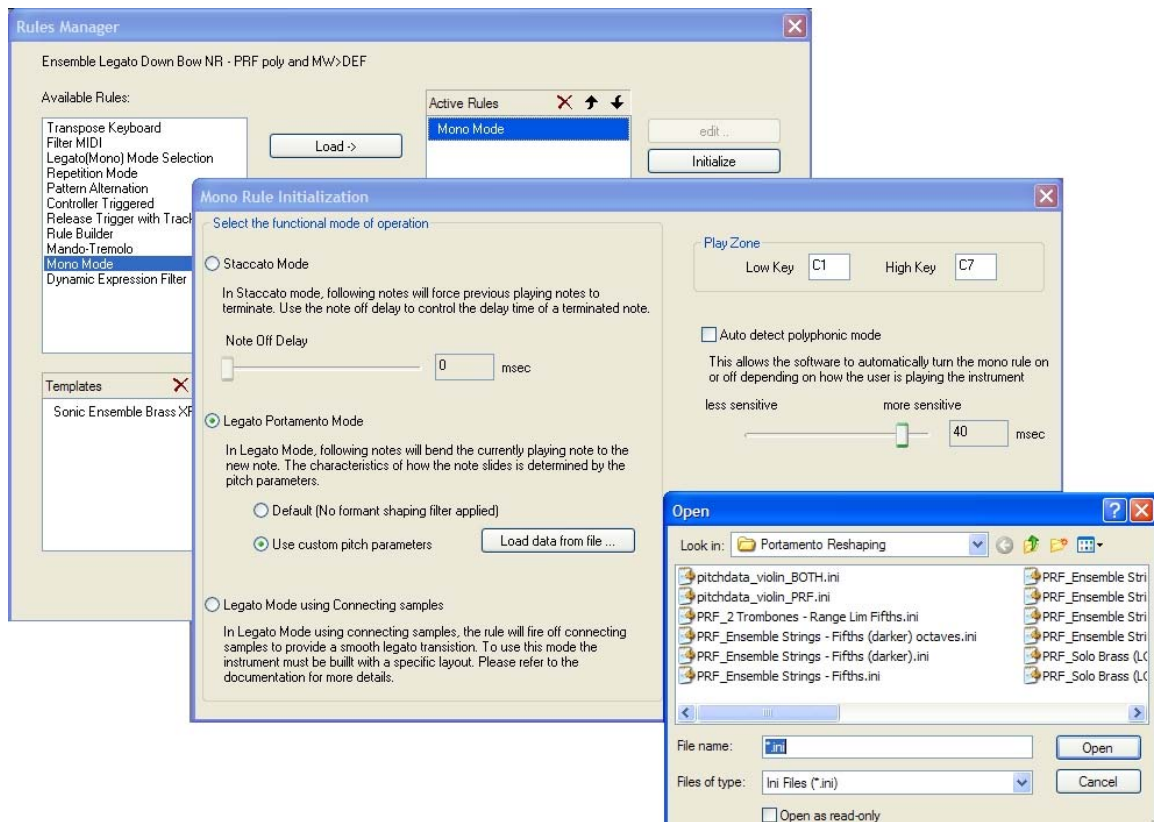
To load a PRF response to an instrument, click 'Load' to add the Mono Mode rule to the instrument. Note that this dialogue can be accessed as shown previously above from the GigaStudio App or alternatively from within the instrument editor.

A set of PRF morphing filter responses is shown after clicking on 'Load data from File'. Select one, then hit 'Apply and close'. If accessed from within GigaStudio, the instrument can now be saved as a .gsi (GigaStudio Instrument) or .gsp (GigaStudio Performance). If accessed from within the instrument editor, the instrument can now be saved as normal for any .gig file.

The hybrid mono/poly mode detection can be enabled by checking the 'auto detect polyphonic mode'.
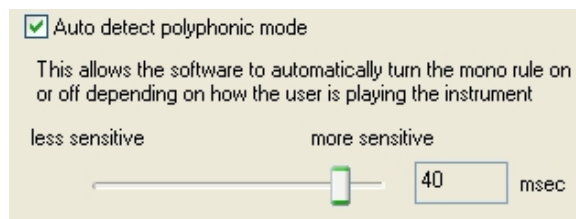
Extended portamento controls are accessed within the PRF .ini files themselves. Below is a summary of these controls:

SlideControl
select either internal (hardwired) or external (continuous control)
(0-1)   Internal (0) or external (1) CC for Portamento

ControllerInfo
select the portamento time continuous controller
(CC#)   CC# ext. Portamento,5-Portam Time,1-ModWHeel,2-Breath,4-Foot,etc

Parameter1
select the high (slowest) limit of the slide for this instrument
 (0-127) Ext. Portamento perf. range scale High

Parameter2
select the low (fastest) limit of the slide for this instrument
(0-127) Ext. Portamento perf. range scale Low

Parameter3
select the default speed of the slide
 (0-127) Default portamento time value (Internal and Ext. at instrument load)

Parameter4
select amount of portamento time modulation over velocity
 (0-127) Modulate portamento time over velocity, 0-none, 127-max

Parameter5
Select the velocity response for the target note of the slide, the lowest setting being the same velocity as the original note
(0-127) Velocity response for sliding notes, 0-none(orig), 127-max

Parameter6
Enable/disable the PRF filter
(0-3)   (24bit INST. ONLY) Use pitch table filters, 0-off 1-PRF,2-DEF,3-both

Parameter7
Use this note offset value if instrument midi value is transposed from the Middle C = MIDI note #60 relationship
(-48-48) (24bit INST. ONLY) table note offset, 0 = no offset

Parameter8
Select by how much the PRF filter response is reduced per lower velocity, modulated by note velocity
(0-127) (24bit INST. ONLY) PRF velocity filter pullback, 0-no pullback,127-full
          pullback

Parameter9
Select the pitch slide curve type
(0-1)   Slide Speed Type, 0-nonlinear bell-type(acoustic), 1-linear(synth)

dwMaxUpSlide
 limits the upward slide by 'n' notes, 0 : implies there is no limit

dwMaxDwSlide
limits the downard slide by 'n' notes, 0 : implies there is no limit

Parameter12
Select the control source for Dynamic Emphasis Filter (not used by PRF)
(1-119, 123) (24bit INST. ONLY) DEF assigned CCsource(1-119,
123=MAUTO_PITCHWHEEL)

Parameter13
Select the upward interval for PRF coefficient tuning
(0-31) (24bit INST. ONLY) PRF Upward long interval tuning reference 0=def octave, 1-
31=semitones

Parameter14
Select the downward interval for PRF coefficient tuning
(0-31) (24bit INST. ONLY) PRF Downward long interval tuning reference 0=def octave,
1-31=semitones

Parameter15-Parameter29
RESERVED

Parameter30
RESERVED for developer coefficient tuning mode only
(0-1) Filter Calibration Mode (for Development use), 0-normal off, 1-on

Mono Rule: Legato mode with connecting samples

Overview:
The legato mode with connecting samples enables soundware developers and users to create instruments with legato transitions without the need for interval specific sampling.

Requirements:

- 1 set of standard sustain samples (primary sustain)
- 1 set of standard release trigger samples (primary release)
- 1 set of 'connecting samples' (transitional sample)
    a. Will require developer to sample an instrument performance of a 'legato movement,' i.e.- two notes performed in succession from which a sample of the transition can be extracted.
- 1 set of 'target' sustain samples (target sustain)
    o Optional for developer: Primary sustain samples can double as target sustain since independent envelope control and sample start offset capability will allow for one set of sustain samples to perform both tasks effectively.
- 1 set of secondary release trigger samples (secondary release)
    o Also optional: 1 set of release triggers can be mapped to different dimensions with independent editing capability to provide note-off functionality to the entire instrument.

Functionality:

In Poly Mode: instrument behaves typically, note-off messages fire the primary release trigger.

In Mono Mode: GigaStudio tracks the root of primary sustain to fire off corresponding secondary release and transitional samples as the primary sustain note moves to target sustain note. For example, if the primary sustain is C4 and the target sustain is F4, GigaStudio recognizes C4 as the 'active' note and fires off the corresponding C4 secondary release and C4 transitional samples when note-on status is triggered by the F4 key.

Instrument layout:

E3   F3
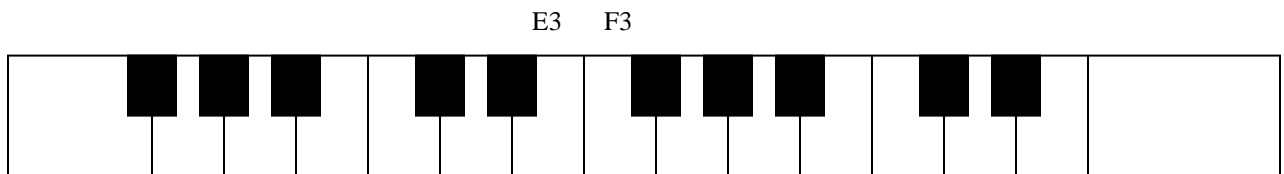
Dimension 1: Round Robin (optional)
Dimension 2: Smart Midi Processor – 4 splits: Primary Sustain (P)
                                                       Target Sustain (TS)
                                                       Secondary Release (SR)
                                                       Transitional (T)
Dimension 3: Release Trigger (optional)

NOTES: The round robin dimension is an optional dimension that allows the instrument to vary samples and/or articulations as the user plays the instrument. For example, if the instrument was played with a bowing technique then the developer might want a separate set of samples for the up and down bows.

Here is a simple example of how the sample will connect two notes using the above layout assuming no Round Robin dimension:

Time

Keys struck: ↓   E3 down   ↓   F3 down

Sampler plays: E3:P is triggered   E3:P is terminated
                                                              F3:TS is triggered
                                                              E3:SR is triggered
                                                              E3:T is triggered
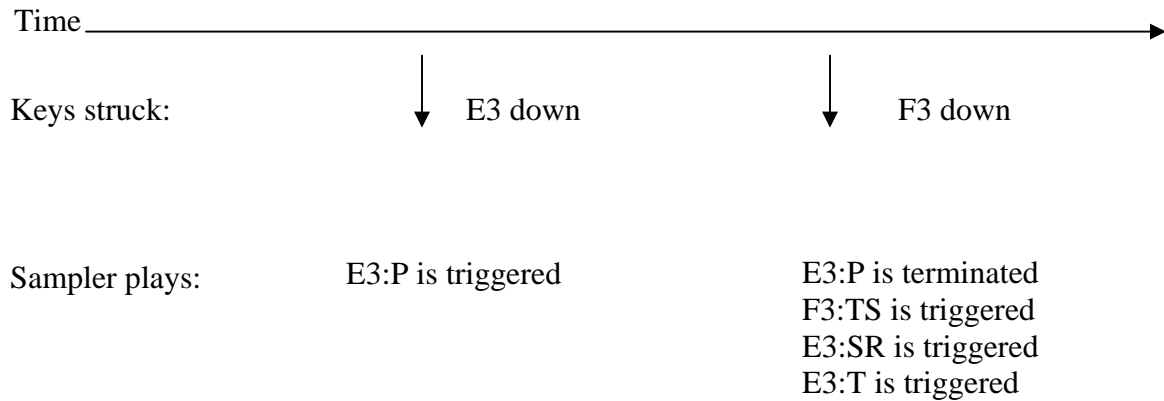
Continuing with the above example:

Time

Keys struck: ↓   G3 Down   ↑   E3/F3/GE Up

Sampler   F3:TS is terminated   G3:TS is terminated
plays: G3:TS is triggered   G3 Primary release trigger (if
                 F3:SR is triggered   it exists)
                 F3:T is triggered
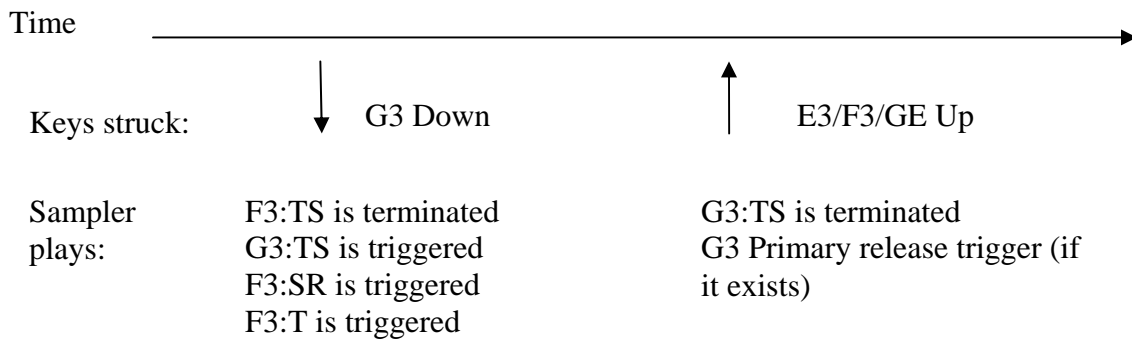
Dynamic Expression Filter

The DEF filter provides a phase corrected, 7th order, morphing filter for adding expressiveness before and after sustaining note-on events. This filter can accurately and continuously morph frequency responses of velocity dynamics even after note-on events have occurred. The filter is driven by a standard midi continuous controller, such as Mod Wheel, etc. The morphing response can be different for every note, and is assigned by the instrument developer.

Instruments that include DEF may have an abbreviation such as "MW>DEF" in their instrument name – in this case suggesting that Mod Wheel is controlling the morphing filter.

GigaStudio Loaded Instruments panel:
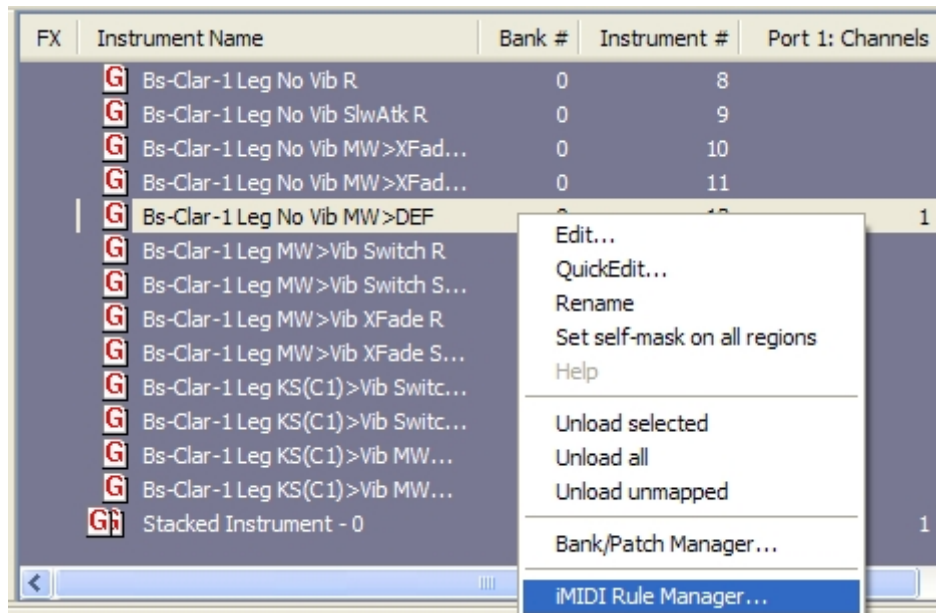
The filter morphing response is generally created by the instrument developer specific to the desired dynamic response for their instrument.

Although DEF responses are intended primarily for the instrument developer, the user can also add DEF responses to any 24-bit instrument. GigaStudio 3.1 includes a nominal set of filter responses for different instrument types. These morphing filter coefficient files can be added to any instrument via the 'Dynamic Expression Filter' iMIDI dialogue.
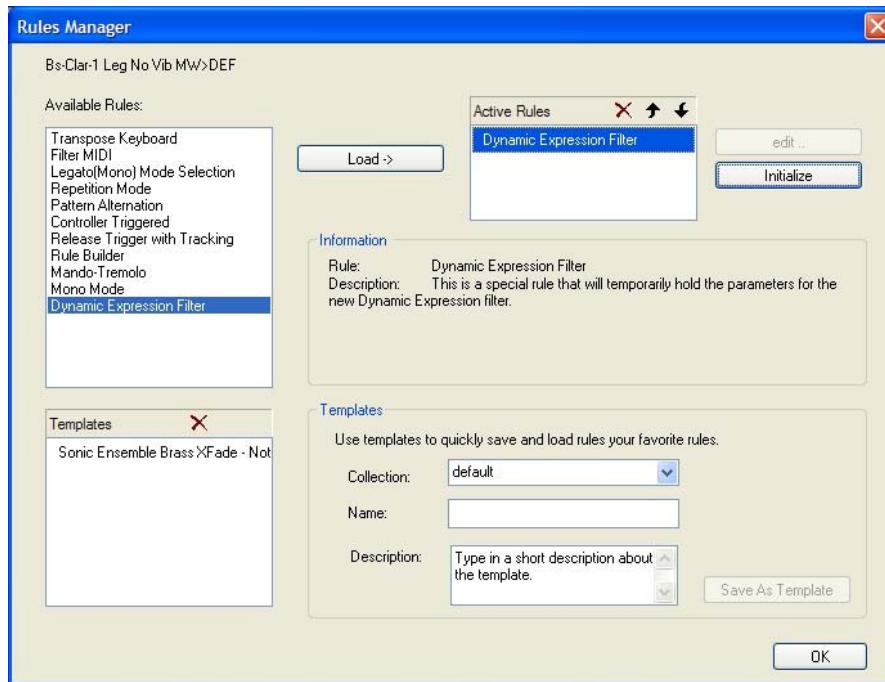
To load a DEF response to an instrument, click 'Load' to add the Dynamic Expression Filter rule to the instrument. Note that this dialog can be accessed as shown previously above from the GigaStudio App or alternatively from within the instrument editor.
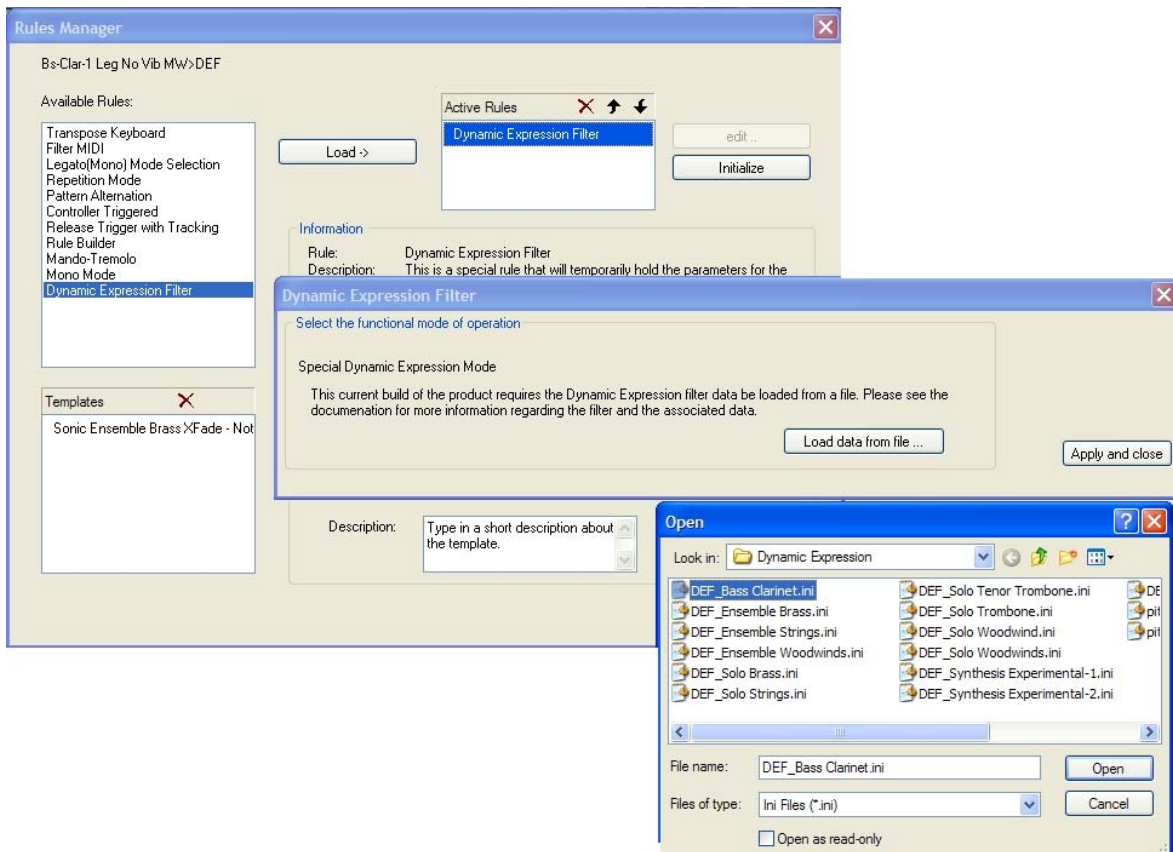
A set of morphing filter responses is shown after clicking on 'Load data from File'. Select one, then hit 'Apply and close'. If accessed from within GigaStudio, the instrument can now be saved as a .gsi (GigaStudio Instrument) or .gsp (GigaStudio Performance). If accessed from within the instrument editor, the instrument can now be saved as normal for any .gig file.

Instrument Loadtime Controller Initialization
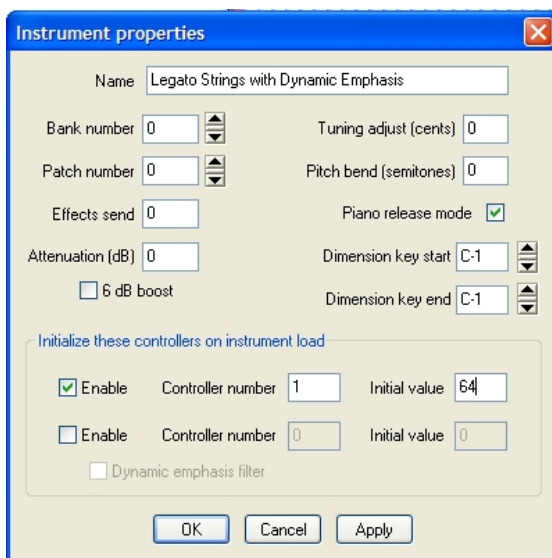
This allows the soundware developer or user to specify an instrument's controller values when loaded for optimal "Load & Play" sound on instruments using features like Dynamic Emphasis Filter.

Stack Instrument Selection Feature

Open the 'Stack Properties ...' window from a stacked instrument master's drop down menu and use the Instrument Selector pulldown to select a controller or keyswitch that selects which instrument on the stack is active. Then use that selected controller or keyswitch to control which instrument is active during performance. The controller will be evenly divided among the instruments on the stack. For example, if there are two instruments on the stack, then a controller value between 0-63 will select the first instrument, and a controller value between 64-127 will select the second instrument on the stack.

This lets you change from the traditional stack behavior (the "None" option) to a mode where only one stack member sounds at a time. The active member is chosen by a controller or a keyswitch - very similar to a dimension switch within an instrument.
- Yellow indicators appear on the left of the instruments in the MIDI Mixer to show which stack member is currently active.

A stack of instruments can extend the playing capabilities of the sampler by allowing an unlimited number of samples to be assigned to a note range. Using a stack of instruments and this instrument selection feature, the user/developer can overlap instrument that share the same note range, and selectively control which instrument is actually playing.

Key Re-Mapping for Stack Instruments

Keyboard remapping is applied at the Port/Channel level, and can be accessed using Channel Properties from the stack master pulldown. From this window:
- It is possible to re-map an input note to a new destination note by dragging the source note from the top keyboard to a new destination note on the bottom keyboard. The Tools selections allow individual notes to be reverted to their original mapping or silenced. This re-mapping is saved in the project.
- Re-mapping templates can be saved & loaded so that an often-used re-mapping can be applied to similar instruments without the need to recreate it from scratch.
- A Learn Mode has been implemented and works like this:
    a. Enable Learn Mode by selecting the desired input method from the Learn Mode pulldown
    b. For keyboard input, select a destination key by clicking on it
    c. Play the desired source note on your MIDI controller to re-map that source note to the previously selected destination note. Each new source note played will re-map until a new destination note is selected or Learn Mode is exited.

EQ & Dynamics Presets Added

A new interface has been added to the DSP Station EQ and Dynamics UIs to allow saving & restoring user presets.

Quick Edit Undo/Redo

It is now possible to Undo/Redo changes made to an instrument using Quick Edit while the performance remains open. Once a performance is closed, any edits can no longer be undone.

While the history is available, it is possible to right-click on the Undo or Redo button to go directly to that edit. Note that this causes any edits between the current state and the selected state to also be undone due to the dependency of more recent edits upon older ones.

CTRL+Z and CTRL+Y Undo/Redo keyboard shortcuts are available for these functions.

Naming Stack Instruments

It is now possible to name stacked instruments so they can be easily identified, even when the stack view is collapsed. Select Stack Properties from the stack master pulldown, type in a name, press Enter, then press OK.

New Round Robin Triggering Modes

A new dimension selector has been added called 'Round robin across keyboard'. This will advance the dimension in a round robin fashion for every key that is struck. The older dimension selector 'Round robin' will continue to function as before, it will only advance the dimension if the same note range is played.

NOTE: In the case where there is a varying number of splits across a keyboard, the rule will use a modulo addressing technique. For example,

NOTE range A: has 4 splits
NOTE range B: has 3 splits

```
                 Note Range A Dim. Split      Note Range B Dim. Split
The first note:       split 1                      split 1
The second note:      split 2                      split 2
3rd note              split 3                      split 3
4th note              split 4                      split 1
5th note              split 1                      split 2
```

Added ability to set Self Mask on loaded instruments

There is now an option to set Self Mask available from the MIDI Mixer instrument pulldown, and also from the right-click menu in the loaded instruments window. This setting gets saved with the performance. This UI will only show a check mark if all regions have this set to ON. Changing this setting will change it for all regions within the instrument. Changing this setting on an instrument that had some regions set to self mask while some were not will force all regions to the new setting. This is not un-doable.

Zone Limit for Stack Instruments

Open the Stack Properties menu of a Stack Master instrument to display a window that allows the play zones of the individual Stack Member instruments to be adjusted independently of each other. Settings made in this window are saved with a .gsp or .gsi performance file.

- Click on a Stack Member instrument to see its play zone highlighted on the keyboard. Key highlighting shows the following states:
  - o Yellow: Keys will play sounds from the selected instrument.
  - o Grey: Keys are in the range of the selected instrument but are playing sounds from another selected instrument. For example, a hi-hat may be mapped to only black keys with a snare mapped to only white keys and their play zones overlap.
  - o Light purple diagonal slash: Keys are not in the range of the selected Stack Member
  - o Dark purple diagonal slash: Keys are not in the range of any part of the Stack Instrument.

GigaPulse Enhancements

- Added ability to set the default preset of a bank (via File drop down menu)
- Added 'About Preset' to the File drop down menu to display version, configuration, and compatibility of the current preset.
- There is a new Import Wave Data menu item which makes creating your own GigaPulse presets very easy & fast. It works like this:
  - *a.* Select Import Wave Date
  - *b.* Navigate to and select your raw impulse .wav file (they can be mono or stereo)
  - *c.* Name your FX Bank File (It is already filled in for you by default)
  - *d.* Name your FX Preset File (It is already filled in for you by default)
- It is now possible to enter parameter values directly as text. Click in a parameter field to highlight it, type in the new value and press Enter.
- When using a GigaPulse encoded Instrument, it is now possible to use the MIDI Mixer's FX button dropdown menu to view and change between any available GigaPulse banks (if the instance has more than one bank). The banks are displayed as a submenu of the GigaPulse menu.
- To change the information viewed in the Bank and Preset field to see file paths, it is now necessary to hold SHIFT or CTRL when clicking on the field. This is to avoid accidentally changing the view.

- Drag & Drop Wave Import – Works like 'Import Wave', but instead of browsing to the stereo/mono wave file, you can drag/drop it on any part of the GigaPulse UI.
- GigaPulse File Menu Additions:
  - 'About Preset' - displays info regarding the currently loaded preset
  - 'Import Wave Data' - Mono/Stereo Wave Importer (Browse for file instead of Drag/Drop)
  - 'Set Current Preset As Default' - Sets the current preset of the current bank as the default for that bank and that bank only. Each bank can have its own default.
  - 'Render Impulse Set to DSP Station Outs' - renders the current impulse set and GigaPulse settings to a single source placement and N Mics, where N is the number of DSP station hardware outputs that GigaPulse currently maps to. This rendering takes into account the DSP Station's routing, level, and panning.

New Distributed Wave Features

- A "MIDI select" button has been added for each DW pane, that toggles whether an incoming note on will select a region. Previously, this option was on all the time.
- When a DW instrument is exported to a .gig file, there's now a check box at the bottom of the dialog marked "Close Distributed Wave and load the exported .gig file now". This is a workflow Improvement for someone who uses DW primarily as a quick gig-builder. This is unchecked by default.
- When a .gig is imported into DW (or drop a .gig file on a DW pane) there is a dialog that prompts for the directory where to place the extracted .wav files. An "Open this directory now" button has been added to this dialog. If you have previously imported a .gig with the same name - or think you might have at one time - this is a safety for seeing what existing files you might be about to overwrite. The button is disabled if the directory doesn't already exist.
- A DW instrument can be renamed by editing the name field on a DW pane.

New Keyswitch Indication

Now a small dot is visible in the keyboard pane when an active keyswitch key is selected by MIDI or mouse click. This applies to standard keyswitch .gig instruments.

Quick Edit UI Improvements

Modulation controls have been grouped with their respective envelopes to make their relationships clearer. Further, they have been changed to popup because they only take four possible values. This also makes a good visual distinction between the knobs providing the traditional envelope parameters and the buttons for modulation.

Improved Handling of ART Files

Previously, GigaStudio made no attempt to adjust any wave indexes when an .art file is imported. Now it does, but only when it can positively ID a sample that has changed its position in the order. This means:

1. Minor edits could be made to every sample in the pool (the order of the samples doesn't change) and still reload an old .art file without error.
2. All the samples can be exported and rebuilt into a new .gig, (changes the order of the samples, but each sample can still be recognized by its fingerprint) and still reload an old .art file without error.

- You can't do both (1) and (2) because there would be unrecognizable samples in no particular order.

Number of ReWire Channels

From the ReWire tab in Configuration Manager, it is now possible to define the number of ReWire channels made available by GigaStudio.

New Comprehensive Set of Keyboard Shortcuts

General:

File menu	New	Ctrl+N
	Open	Ctrl+O
	Save	Ctrl+S
	Save As…	Ctrl+Shift+S
	GigaStudio Settings	F2
	System Settings	F3
	QuickSound Settings	F4
View menu	DSP Station	Ctrl+D
	MIDI Mixer	Ctrl+M
	Toggle Loader Pane	Ctrl+L
	Toggle Keyboard Pane	Ctrl+K
	Bank/Patch Manager	Ctrl+B
	Midi Monitor	Ctrl+R
Help menu	Help Topics	F1
	About GigaStudio	Ctrl+F1
Toolbars	Launch Instrument Editor	Ctrl+F5
	Launch Sequencer	Ctrl+F6
	Lauch Wave Editor	Ctrl+F7
	Audio Capture (toolbar toggle)	F8
	Audio Capture Record	F9
	Audio Capture Stop	F11
	Audio Capture Reset	F12
	Diagnostics	Ctrl+F10
	Halt/Start Audio Engine	Ctrl+F11
	Reset	Ctrl+F12
	Clear Solo	Alt+S

MIDI Mixer

Channel *Navigation*	Increment/Decrement selected strip (includes stacks)	Up/Down Arrows
	Go to Channel 1	Ctrl+Up Arrow
	Go to Channel 16	Ctrl+Down Arrow
	Go to specific channel	Type channel number on numerical keypad & press Enter
	Toggle expanded/collapsed view on selected channel	Ctrl+Enter
Controlling *Functions*	Toggle Mute State on Selected Channel	M
	Toggle Solo State on Selected Channel	S
	Open QuickEdit on Selected Channel	Q
	Open effects menu on Selected Channel	F
	Open Controller #1 PullDown (normally Volume)	Ctrl+V
	Open Controller #2 PullDown (normally Tune)	Ctrl+T
	Open Controller #3 PullDown (normally Pan)	Ctrl+P
	Open Mixer Assign	Ctrl+=
	Detach Instrument on Selected Channel (or individual stack)	Shift+Esc

DSP Station

Channel Strip Navigation	Increment/Decrement Selected Inputs	Left/Right Arrows
	Go to Inputs 1,2	Ctrl+Left Arrow
	Go to Last Inputs	Ctrl+Right Arrow
	Go to Specific Inputs	Type odd numbered input on numerical keypad & press Enter.
	Toggle Wide/Narrow View on selected input pair	Ctrl+Enter
Controlling Functions	Toggle Insert State on Selected Channel	I
	Toggle Dynamics State on Selected Channel	D
	Toggle Dynamics Auto Makeup state on selected channel	Shift+D
	Toggle Master EQ State on Selected Channel	E
	Toggle Mute State on Selected Channel	M
	Toggle Solo State on Selected Channel	S
	Cycle through pan modes on selected channel	P
	Toggle Link state on selected channel	L
	Toggle Aux Send On/Off state on selected channel	Ctrl+1 through 8
	Toggle Aux Send Pre/Post state on selected channel per Aux	Ctrl+Shift+1 through 8
	Toggle EQ Band On/Off state on selected channel	Ctrl+Alt+1 through 4
	Cycle through EQ curves on selected channel per band	Ctrl+Alt+Shift+1 through 4
	Toggle Aux Send Link state on selected channel	Shift+L
	Select Left Aux Send when Unlinked	Shift+Left Arrow
	Select Right Aux Send when Unlinked	Shift+Right Arrow
Tab Navigation	Cycles tabs from left to right with wraparound	Ctrl+Tab
	Cycles tabs from right to left with wraparound	Shift+Ctrl+Tab
	Go to specific tab	Alt+F5 through Alt+F8
I/O Control	Open Input Routing Pane	Ctrl+-
	Open Output Routing Pane	Ctrl+=

Loader Pane

Toolbar   Previous Folder   Alt+[

                  Next Folder   Alt+]

                  Up   Backspace

                  Toggle Audition Mode   Ctrl+A
                  Toggle Stack Instruments Mode   Insert
                  Play Audition Sample   Spacebar

                  Show/Hide Hard Drive Instrument
                  Tree   /
                  Show/Hide Instrument List   *
                  Show/Hide Loaded Instrument List   -
                  Dock QuickSound Browswer   Ctrl+Q
                  Maximize QuickSound Browser   Alt+Q
                  <u>QuickSound Settings</u>   F4

Maintenance Items

- Stack instruments loading in the wrong order by a .gsi file when the .gig files are already loaded has been fixed.
- Previously iMIDI rules were processed in series on a stack instrument from one stack member to the next. Now they are being processed in parallel. This avoids the issue of an earlier iMIDI rule interfering with the processing of a later one for stack member instruments.
- ReWire MIDI Port #8 is now available in the Cubase and Nuendo.
- Occurrences of the QuickSound HitBox not going away have been fixed. Additionally, this is now defaulted to Off.
- A confirmation dialog has been added to the Unload All function of the Loaded Instruments pane.
- Legato rule has been extended to support multiple velocities per note range. Previous builds would crash under certain circumstances when using multiple velocities.
- The GigaPulse Help button now functions as follows:
  1) If impulse set of current bank has a help file:
     a) The help button is displayed and the light is ON
     b) If the user clicks the button, the light goes OFF, then immediately comes back ON, then the help file is displayed (as long as windows knows how to handle the file type).
  2) If impulse set of current bank does not have a help file, the help button is hidden.
  o Help files can be added to an impulse set via 'Edit Current IIS'.
- Previously, changes made in Quick Edit were not saved with .gsi files. This has been corrected.
- GigaStudio 3 is now compatible with Intel HyperThreading processors.
- Previously, the cascade function of GigaPulse did not include mic models. This has been fixed.
- The MIDI indicator in the lower right of the status bar now displays a GSIF2 icon when a GSIF2 MIDI input is selected.
- Previously, tracks recorded via ReWire could be recorded out of sync with the host app's sequencer. This has been fixed.
- GigaStudio will now present a notification when a performance file (.gsp or .gsi) attempts to load a missing .gig file.
- Previously, if a multi instrument .gig file (including variations) was saved as a .gsp, when the .gsp was a later loaded the system allocated memory for each instrument even though wave files were shared amongst the instrument variations. This has been fixed.
- Code has been modified to reduce or eliminate occurrences of registration numbers being reset after a system crash.

- Previously, there was a possibility that a user may have had a.) audio routed through the group bus and b.) the output master set below the default unity gain setting. Recalling such a performance now may show a louder output so mix balances should be re-checked. Before this fix, if the user had the circumstance a + b above, then the master attenuation would have been applied twice - i.e. a 3dB attenuation on the master outputs would result in a 6dB attenuation for signals routed as described above.
- Possible Editor crashes when performing a Save As… of GigaPiano-II have been fixed.
- Files in the Windows Recycler Bin will no longer be catalogued by the Quick Sound Database.
- Previously, user defined channel names in DSP Station could disappear when adding more channels. This has been fixed.
- Previously, when a convolution encoded instrument was detached, its convolution would continue to run, using up CPU cycles. This has been corrected. Part of this correction has been to block MIDI Program Changes on FX encoded instruments. The reason for this is that instruments can be duplicated with a simple program change. This works because the engine use a pointer to the instruments and just remaps it to the various MIDI channels. However, this does not work so well with a FX because a second instrument with FX needs a new and unique instance of the FX. This is undesirable because the time it takes to create a new instance of FX can be relative slow compared to a program change.
- Previously, external control depth could be seen, and changed, in Quick Edit, but which controller was assigned as the modulator could not be seen. This has been corrected.
- Previously, reloading a GigaPulse bank that was already loaded (for example, if the user wanted to go back to the bank's initial state), would not actually reload the bank. This has been fixed.
- Keyswitch keys now light up when triggered.
- The numerical display of parameters in GigaPulse SP now correctly updates when the knob is turned.
- User defined DSP Station channel names are now visible as routing choices from the MIDI Mixer.

Uninstaller Changes

Uninstall is now more thorough. This new functionality replaces GigaClean. All folders/ registry enteries/files are removed from the system.

- There is an option to leave both the QuickSound database and the user license information on the system. By default, this option is off.
- There is one registry that remain for GigaPulse:
  - HKCU\Software\TASCAM\GPulse

Known Issues

- In GigaPulse, setting the Tail Model values of Overlap, Level and Cutoff to high values may cause a feedback build up.
- Blue Tubes Chorus plug-in has been shown to crash GigaStudio. All other Nomad Factory plug-ins work well. This is being investigated.

Changes in 3.12

(Version 3.11 intentionally skipped)

EG2 - (Filter envelope) Modulation of Dynamic Emphasis Filter

It is now possible to modulate the DEF with the EG2 (filter envelope), which is always additive to the assigned controller for the DEF. The normal multimode filters DO NOT have to be running - i.e. you can have DEF without LP/HP/BP/BR enabled. EG2 values below 50% are effectively subtracted from the ruuning CC value, and EG2 values above 50% are effectively added to the running CC value. The result of the addition is saturated - i.e. the effective value still is always within the standard range of the Continuous Controller

- Example: if the EG2 is at it's peak (100%) value, there is no more positive modulation possible - if the CC value is pushed up it will not do anything under this 'saturated' situation, however moving downward in this case will bring the maxed-out value back down.

To enable this in your DEF enabled, <u>24bit instrument</u>, set the Global DEF filter profile, 'Parameter15' to "1" as follows, then replace the Dynamic Expression filter profile (.ini file) in the Instrument Editor (iMIDI Rule=Dynamic Expression):

Parameter15=1   // (0-1)   DEF enable EG2 modulation of DEF
(in addition to external controller)

Channel AfterTouch as control source for DEF

Channel Aftertouch can now be used as a control source for the Dynamic Expression Filter.

To enable this in your DEF enabled, <u>24bit instrument</u>, set the Global DEF filter profile, 'Parameter12' to "125" as follows, then replace the Dynamic Expression filter profile (.ini file) in the Instrument Editor (iMIDI Rule=Dynamic Expression):

Parameter12=125   // (1-119, 123,125)
DEF assigned CCsource(1-119, 123=MAUTO_PITCHWHEEL, 125=Chan. Aftertouch)

Since Aftertouch cannot be nominal 'center' (it always starts at zero), you can optionally set a nominal offset value which is added to the incoming Aftertouch value and level saturated as follows:

Parameter16=64   // (0-64) (24bit INST: Param12=125 ONLY)
DEF aftertouch nominal offset value

Maintenance Items

- The QuickSound search entry box now defaults to <.gig <u>or</u> .gsi> so all loadable instruments will appear immediately without the need to type something.
    - "Restore to last search on startup" in the QuickSound tab of GigaStudio Settings window is now defaulted to ON.
- Stacked/Keyswitch instruments now show a dot on the key in the keyboard pane representing the currently selected instrument within the stack. This matches the behavior of keyswitched .gig instruments.
- Previously, release triggers would not work on keyswitched stack instruments when keyswitches occurred during a sustain. This has been fixed.
- Previously, release triggers from unplayed instruments on a keyswitched stack could be incorrectly triggered. This has been fixed.
- Previously, if a stack was built from already loaded instruments that had been built onto a stack, and the order of the new stack was different from the original stack, the instruments would be loaded in the wrong order. This has been fixed.
- Previously if an iMIDI PRF profile was attached to a single member of a stacked instrument instead of assigning and saving that profile in the GS Editor, the Portamento time defaulted to 64 on load instead of loading with the default value specified in the PRF. This has been fixed.
- Previously when copying an instrument from a gig file, then closing that source file, then creating a new file and pasting, all of the regions could become labeled as "Bad Index" and none of the actual sample folders are copied to the new file. If this file was saved with bad indices the Editor could crash. This has been fixed.
- DSP Station input settings were not previously being saved with the project. This has been fixed.
- Previously, instruments linked on multiple ports with release triggers would sometimes have their releases terminated prematurely. This has been fixed.
- Previously, GS2 format .gig files that had Quick Edit changes made in GigaStudio 3 could cause a system crash when saved. This has been fixed. **It is strongly suggested that any performance saved in GS3 that used a v2 gig file that was used with Quick Edit should be reloaded in v3.12 and resaved.**
- Previously, releases would not be triggered on instruments containing some regions mapped to a null sample. This has been fixed.
- Previously, the MIDI monitor used a 0-based indexing scheme for ports & channels while the app used a 1-based indexing scheme. This caused confusing results from the MIDI monitor log. The MIDI monitor now uses a 1-based indexing scheme to match the app.

- Previously, the file <ew.sys> would not get replaced when regressing to an earlier version of GigaStudio. This has been fixed in the V3.12 Patch Updater. If you need to use an earlier version:
  - Run GigaClean and re-install
  Or
  - Remove this file by hand: c:\windows\system32\drivers\ew.sys then run the patch
- Loading of GS2 performance files has been made more reliable.
- Occurrences of crashing when saving a .gsp file have been corrected.

Changes in v3.20

New Features

GigaViolin Support

Version 3.20 or higher is required to load and play the GigaViolin .gig instrument.

Improved Efficiency with 24-bit Instruments

Changes have been made to the sampler engine providing for 20% - 35% more efficiency, depending on the extent of filter usage (DEF & PRF included) in the 24-bit instruments being played. The following table illustrates the amount of efficiency improvement from previous versions of GS3 based on a 124 voice benchmark project:

Instruments Played	CPU Reduction
Non filtered	35%
50/50 filtered	27%
All filtered	20%

Note: These numbers do not reflect convolution or mixer overhead. They represent an expected improvement in the core sampler engine.

Export Mapped Instruments to Text

By selecting View > "Bank/Patch Manager" or Right-Mouse-Clicking in the loaded instrument pane and selecting "Bank/Patch Manager", you'll see an "Export Patches to File" button, which outputs a tab delimited file with (bank, patch, instrument name) info for each mapped instrument suitable to be dropped into a DAW for bank/patch assignments.

A check box next to the button labeled "Port/Channel Detail" changes the exported data to show (bank, patch, port, channel, instrument number, instrument name, and instrument gig file) for each mapped instrument. The data is tab delimited suitable for import into a spreadsheet.

This allows documenting performance configurations.

Main App Maintenance Items

- Incorrect dependencies between Envelope 1 and Envelope 2 which could cause incorrect decays have been corrected.
- Rare instances of GigaStudio crashing when rendering GigaPulse through groups have been fixed.
- Previously the "Rebuild this folder recursively" function in the Quick Sound database would not rebuild all the folders within the selected folder. This has been fixed and status indication has been added.
- Rare instances of instruments linked on Multi-Ports with release triggers having their releases get terminated prematurely, and possibly causing a pop, have been fixed.
- Rare instances of a scroll bar in the MIDI Mixer not appearing when it should, have been fixed.
- Possible causes of noise burst with some instruments have been reduced.
- Possible causes of instability have been reduced
- MIDI and iMIDI handling has been improved
- DEF and PRF handling have been improved
- The QuickSound database has been enhanced for stability

Known Issue

All PRF instruments on a stack will inherit the default Portamento time of the most recently instrument loaded, regardless of their independent values on initialization.