TASCAM GigaStudio 4

GigaStudio 4 Quick Start Manual

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GigaStudio 4 Quick Start

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GIGASTUDIO 4 QUICK START

GigaStudio 4 is an advanced sampler that you don't master in a day. But paradoxically, it's also very easy to get up and running…as this Quick Start will prove.

We know you're impatient to check out what this new kind of musical instrument can do, so let's jump in. We'll gloss over some of the many outstanding features in favor of getting a broad overview—so when you get a chance, make sure you go through the entire manual. You know the old saying:

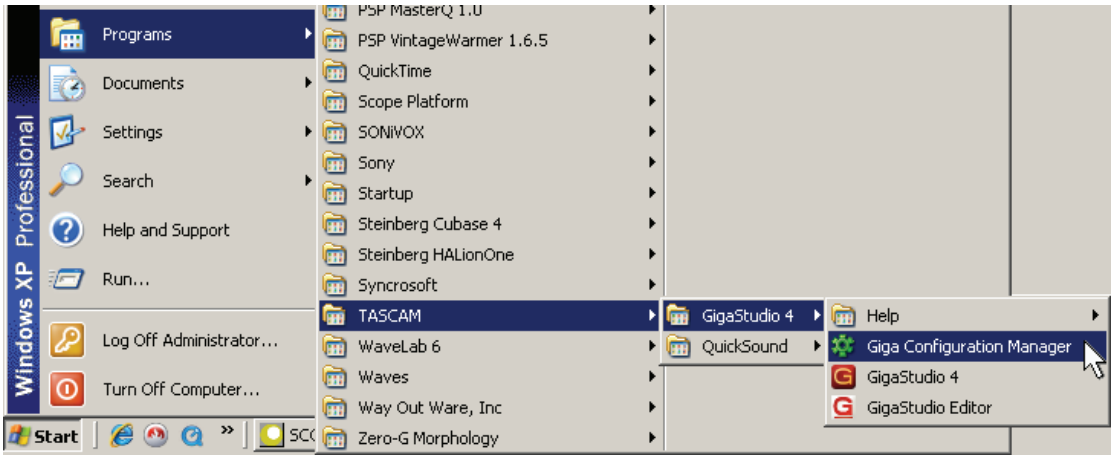
Q. *What's the definition of a "power user"?*
A. *Someone who reads the manual!*

INSTALLATION

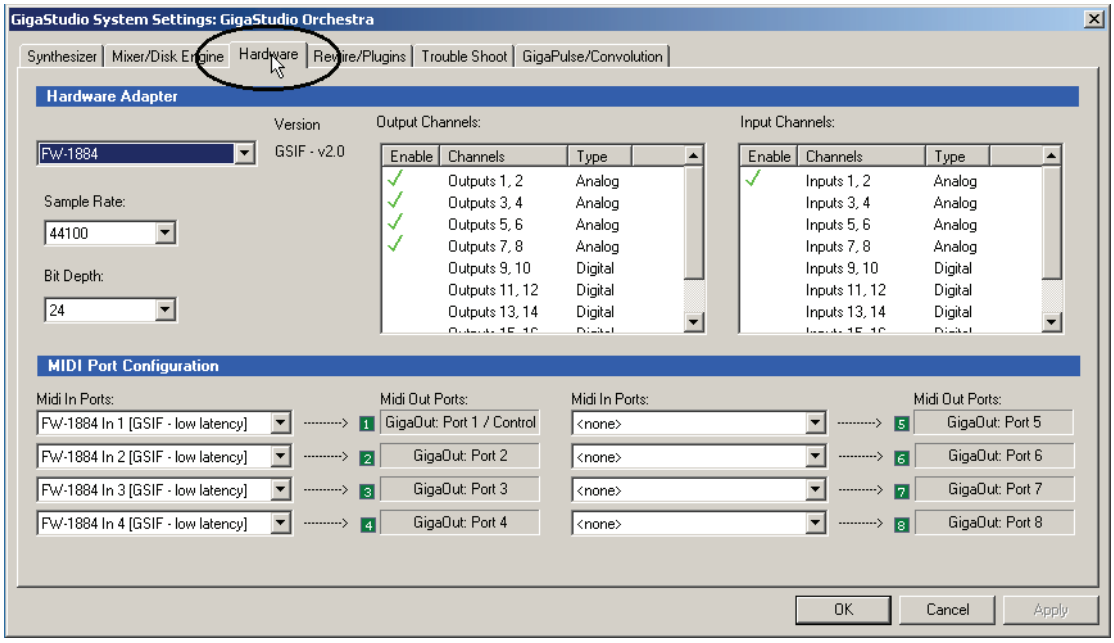
1. Run the Application Installer on the DVD-ROM titled "Application Installer & Bundled Content."
2. After installing the application, create a folder for your Gigastudio content on a separate data drive (TASCAM highly recommends having separate drives for the operating system/program files, and your content).
3. Drag the bundled Giga Instruments on DVD-ROMs 1-4 to the folder created in step 2.
4. Disc 2 includes trial program plug-in installers. These include a full plug-in library from Wavelore and 30-day demos from ArtVista and Sampledaddy. Read the registration instructions included with those installers to start your 30-day demo.

INITIAL SETUP

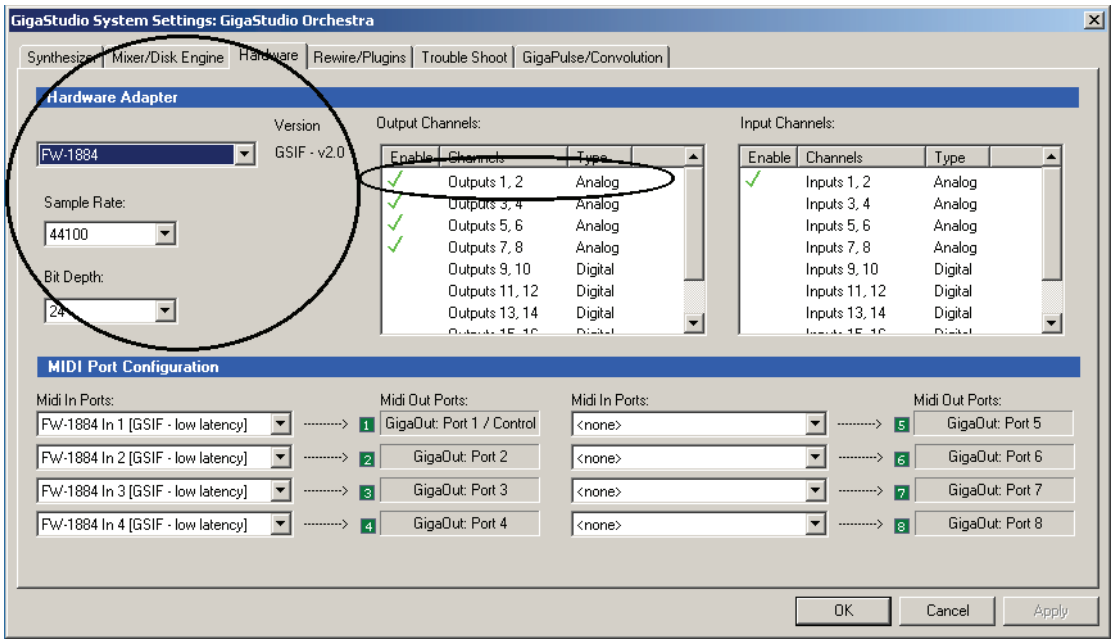
First, we'll make sure GigaStudio can converse with your computer.



1. Start GigaStudio's Configuration Manager by going *Start* > *Programs* > *TASCAM* > *GigaStudio 4* > *Giga Configuration Manager*. (Note that this dialog will also appear the first time you launch the GigaStudio 4 application, but it's generally better to configure your computer before you start working with GigaStudio 4 itself).



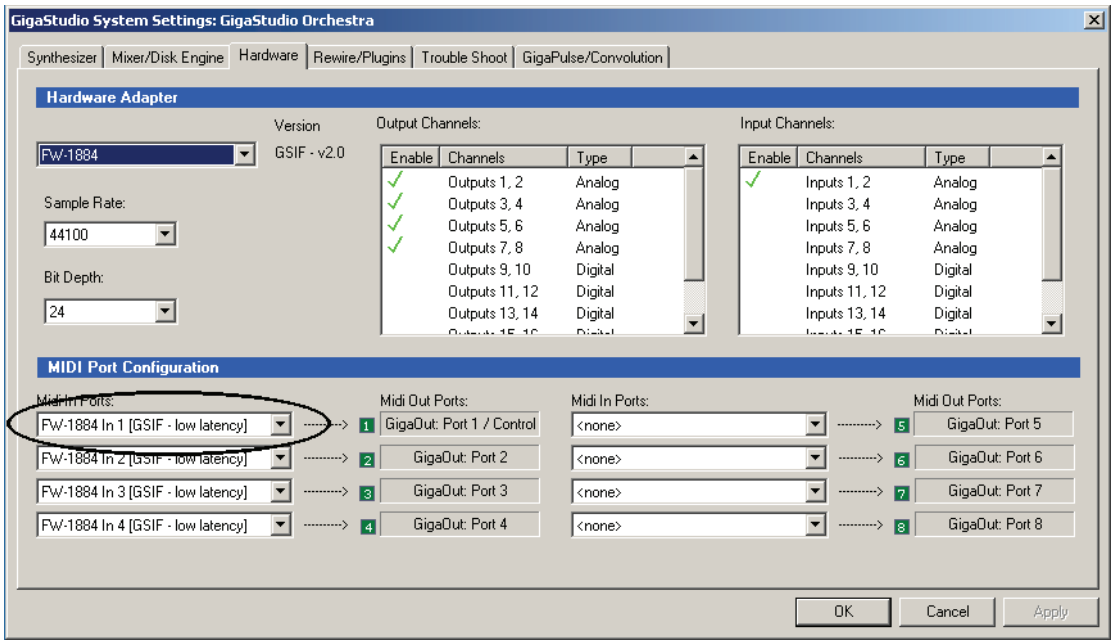
2. You'll now see the Hardware Configuration screen. There are several tabs; click on Hardware (outlined for clarity). For now, we just want to verify that GigaStudio recognizes your audio interface and MIDI input.



3. GigaStudio 4 requires a GSIF-compatible audio interface. If you do not have a GSIF-compatible interface installed, you will still be able to use GigaStudio in ReWire mode (as described in the main manual), but not as a standalone application. For a current list of GSIF and GSIF 2-compatible hardware, check the TASCAM web site at www.tascam.com.

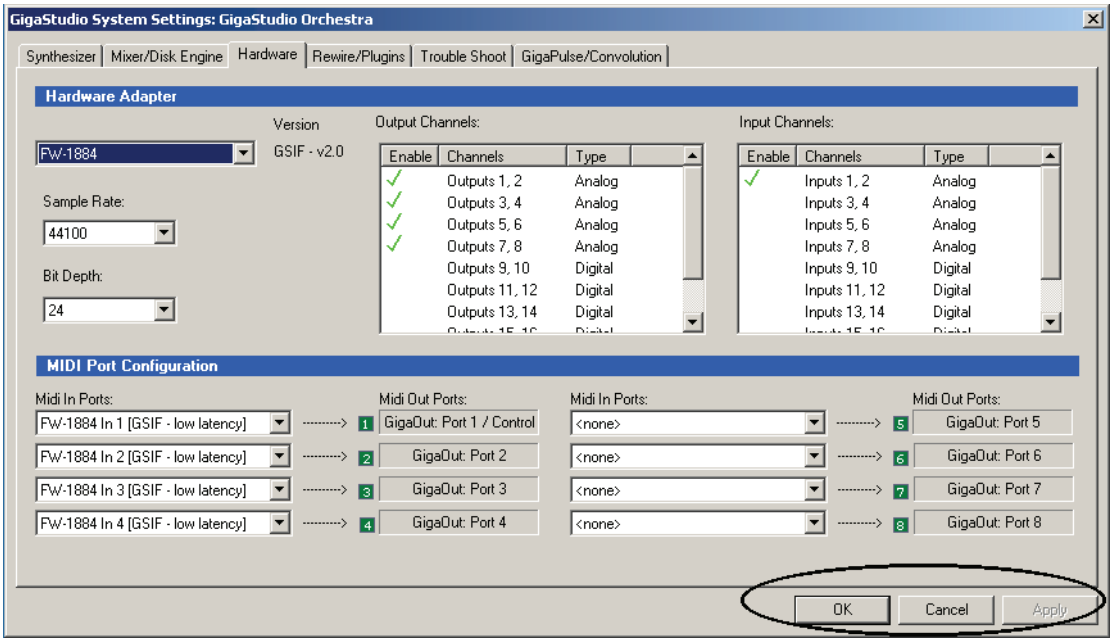
   Under the Hardware Adapter portion of the screen (toward the left), check that the name of your audio interface appears, and says "GSIF" to the right of the name. This means that the interface has GigaStudio-compatible drivers. For 32-bit systems, GSIF can be any version; for 64-bit systems, or to do audio recording with 32- or 64-bit systems, the GSIF drivers must be v2.00 or higher. Below the name, choose a sample rate and bit depth supported by your interface; click on the small triangle toward the right of these fields, and a drop-down menu lists your options. Also check that at least one output is enabled under Output Channels. You can enable/disable your audio interface outputs by clicking in the Output field for a particular output channel.

► *If you don't see that a GSIF driver is available, either contact your interface manufacturer to check if a newer driver package is available that includes GSIF drivers, or run GigaStudio in ReWire mode. For this QuickStart, we'll assume you have GSIF drivers available. Otherwise, look in the main manual for information on ReWiring GigaStudio in host applications like Nuendo, Sonar, Cubase SX, Pro Tools, Live, etc.*



4. Let's ensure that MIDI is up and running. GigaStudio 4 can handle up to 8 physical MIDI ports, but we'll keep it simple for now. Click on the small triangle to the right of the top MIDI In Ports field, and choose the name of the MIDI port you want to use.

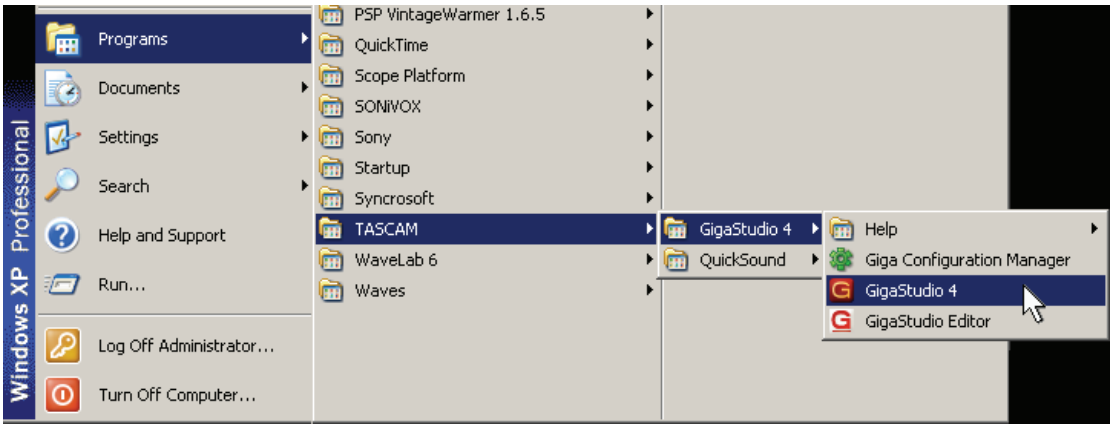
► *If you don't see a MIDI port, or don't have a MIDI interface, don't panic—you can use GigaStudio's virtual keyboard to trigger notes for now. Still, hook up a MIDI interface to your computer as soon as possible so you can play with a real keyboard and feed in MIDI data from sustain pedals, controllers, etc.*



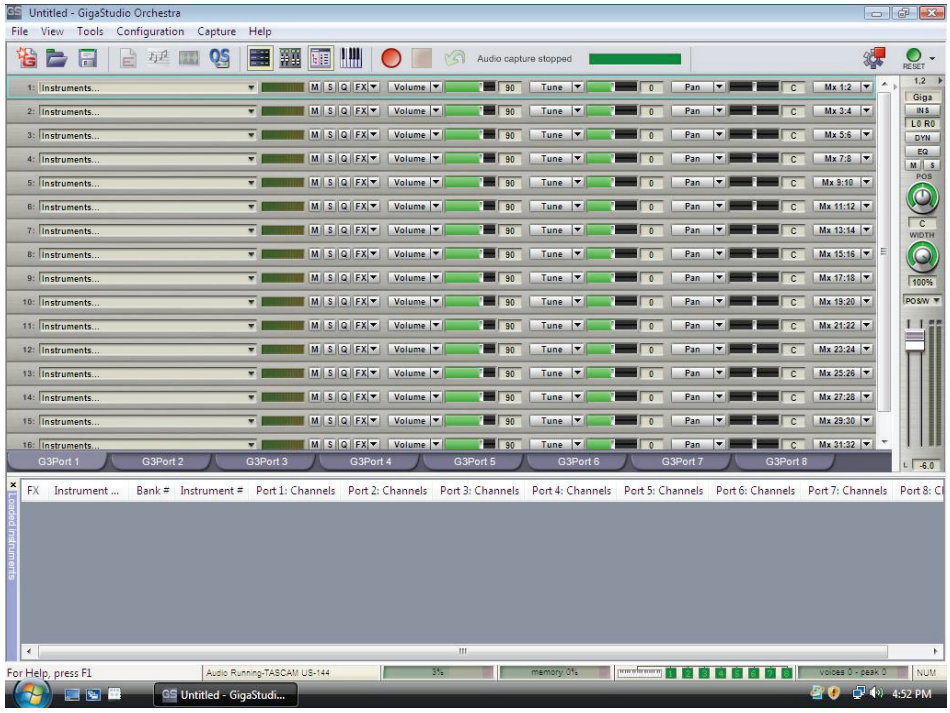
5. Click on "Apply" then on "OK" to complete the configuration process.

GETTING TO KNOW GIGA

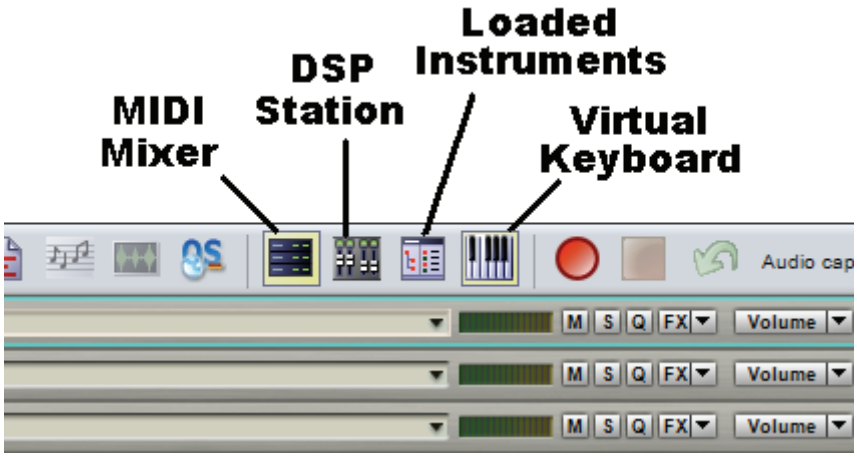
After booting and the desktop appears, wait for any significant hard drive activity to cease before starting GigaStudio 4.



1. Start GigaStudio by going *Start* > *Programs* > *TASCAM* > *GigaStudio 4* > *GigaStudio 4*.



2. Here's the default opening screen. This is where you'll spend most of your time when loading and playing instruments, although there are several other screens for advanced editing and other aspects of managing GigaStudio. Let's look at the two main elements of this screen: The MIDI Mixer and Loaded Instruments window.



► *If you don't see both views, one or more may be hidden. You can show/hide them with the toolbar buttons at the top of the main screen.*

3. A menu bar with menus for File, View, Tools, Configuration, Capture, and Help is at the very top of the GigaStudio screen. Other elements are:

   - A Toolbar that provides quick access to common GigaStudio functions
   - A MIDI Mixer with 16 instrument slots (per port). Loading an instrument into a slot associates it with a particular MIDI channel.
   - A Resize Bar along the bottom of the MIDI Mixer. Click on this and drag up and down to reveal more or fewer of the instrument slots.
   - Eight tabs, each of which selects one of the eight individual MIDI ports. The MIDI Mixer changes when you click on a port tab to show which instruments are associated with which channels for that port. For this QuickStart, we'll stick with G4Port 1, so make sure that tab is selected before moving on.

► *If you do the math, eight output ports times 16 channels where you can stack 128 instruments per channel means you can load up to a total of 16,384 instruments. Of course, your computer will almost certainly run out of horsepower before that happens, but it's nice to know the potential is there.*

4. The Loaded Instrument view shows information on instruments that are currently loaded into GigaStudio. Upon opening the application for the first time, you won't see anything because of course, nothing has been loaded.

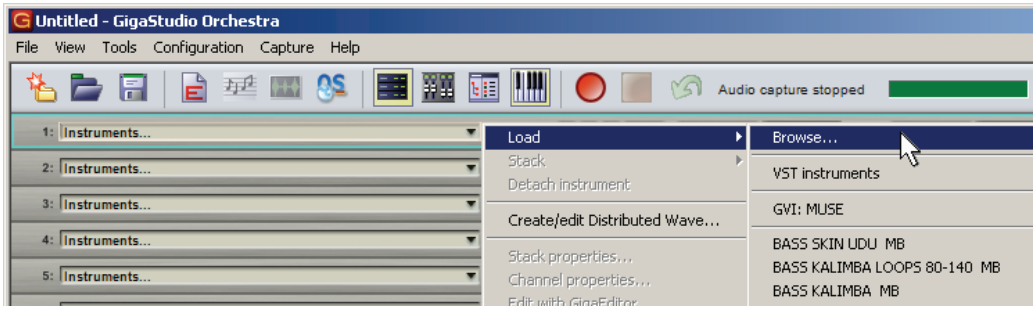
5. You can call up the Virtual Keyboard by clicking on the toolbar Virtual Keyboard button. This keyboard lets you trigger notes for the various instruments, without the need for an external MIDI controller. The four buttons at the left are (from top to bottom) zoom in, zoom out, scroll keyboard right, and scroll keyboard left. The slider toward the left sets a default velocity value for when you click on a key, but if you click on Auto, velocity will depend on where you click on the key—the higher up on the key, the lower the velocity. The slider on the right controls Master Tuning. Also note the close box in the upper left corner.

BROWSING FOR, AND LOADING, AN INSTRUMENT

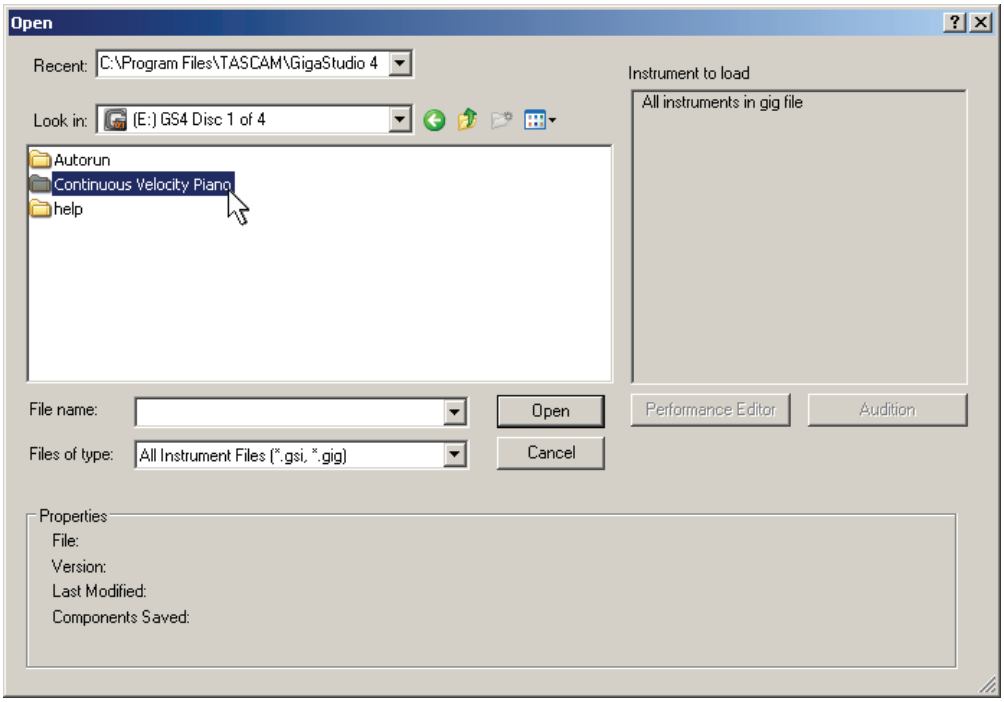
Let's call up an instrument and play it. Begin by inserting DVD-ROM 3 (titled "Application Installer and Bundled Content") into your computer's DVD-ROM drive.

1. Explore the DVD and find the folder of bundled GigaStudio instruments. You should see TASCAM Constant Velocity Piano and several other folders of GigaStudio instruments. Drag this folder to your data drive (if you have a second hard drive installed for data), or to your My Documents folder if you have only one hard drive in your computer. All four discs contain GigaStudio instruments, so you'll eventually want to copy all of them to your computer. *Note:* To optimize GigaStudio's performance, install an additional hard drive that's dedicated to GigaStudio instruments.

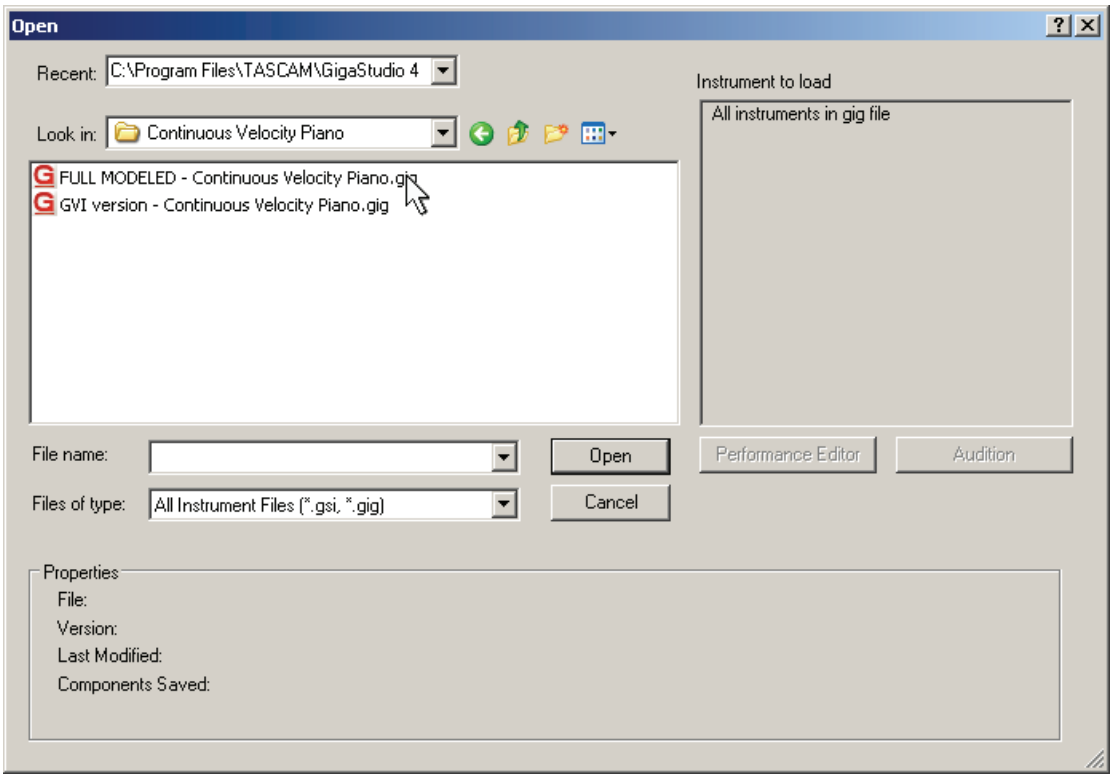
2. Click on the downward-pointing arrow toward the right of the first Instrument Slot field, then select Load > Browse. (You could actually use any Instrument Slot, but we'll use the first one for consistency.)



3. An Open dialog box appears. Navigate to the folder you copied to your hard drive, and double-click on the Continuous Velocity Piano folder.



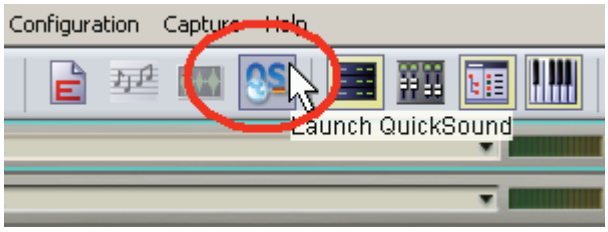
4. In the window that appears, double-click on FULL MODELLED – Continuous Velocity Piano.gig (or click on it, then click on the Open button).



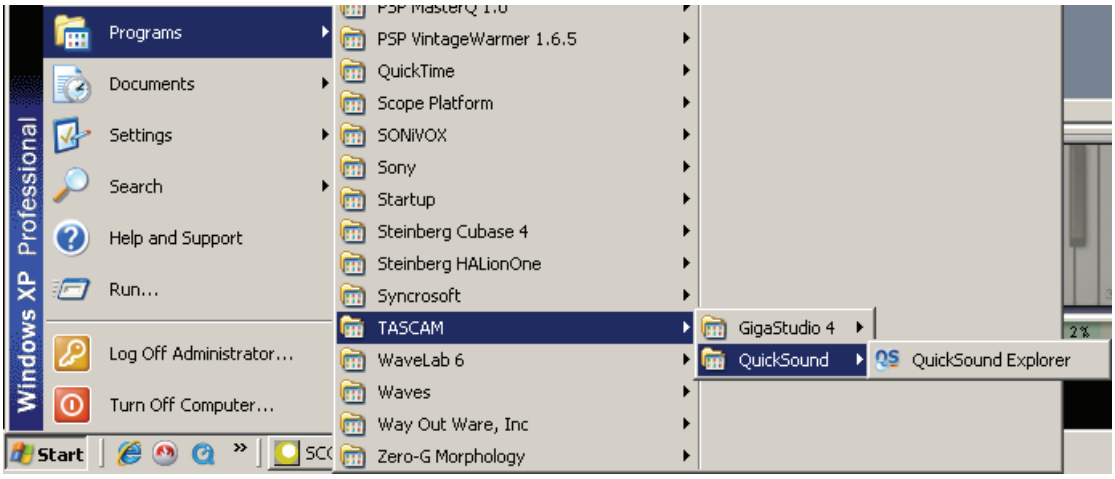
5. FULL MODELED – Continuous Velocity Piano-normal appears in the first instrument slot. Play your MIDI keyboard (or click on the virtual instrument keys) to hear a truly expressive piano sound.

FINDING SOUNDS: THE QUICKSOUND EXPLORER

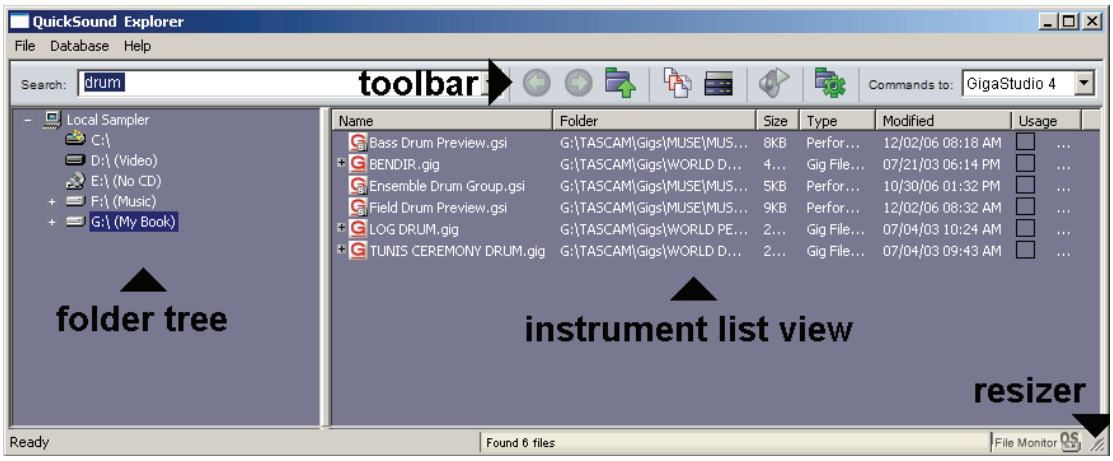
Before finding out how to modify sounds and create instruments, you might want to check out some more instrument sounds. In addition to the content included with GigaStudio, it's also supported by world-class sample libraries—but this means that is becomes essential to be able to locate and load the sounds you want as quickly as possible. The QuickSound Explorer, a stand-alone application that's compatible with all Giga family products (not just GigaStudio, but also GVI and the Giga Editor), simplifies and streamlines the process of selecting samples. This window can be moved and resized with the small triangular handle in the lower right, like any other typical Windows programs.



To call up the QuickSound Explorer, click on the QS button.



You can also call it up via the Start menu.



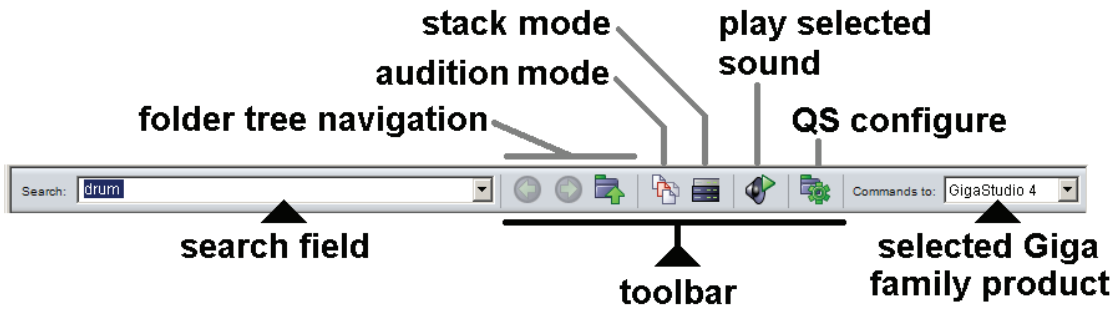
There are three main sections:

- The *Folder Tree* toward the left acts like Windows' explorer. It shows the various drives available on your computer. You can search for GigaStudio files throughout the computer, or limit searching to particular drives or folders.
- The *Instrument List* shows which instruments were found with GigaStudio's search function, as well as information about the files For example, if you decide to look for files with the name "Piano" and do a search, all instruments containing "Piano" are listed here along with their file paths, size, type,

when last modified, and details about usage. Or, you could search for all GigaStudio Instrument files with a .gig suffix.

- Toward the top, a Toolbar accesses various QuickSound functions. We'll describe this next.

THE QUICKSOUND EXPLORER CONTROL STRIP

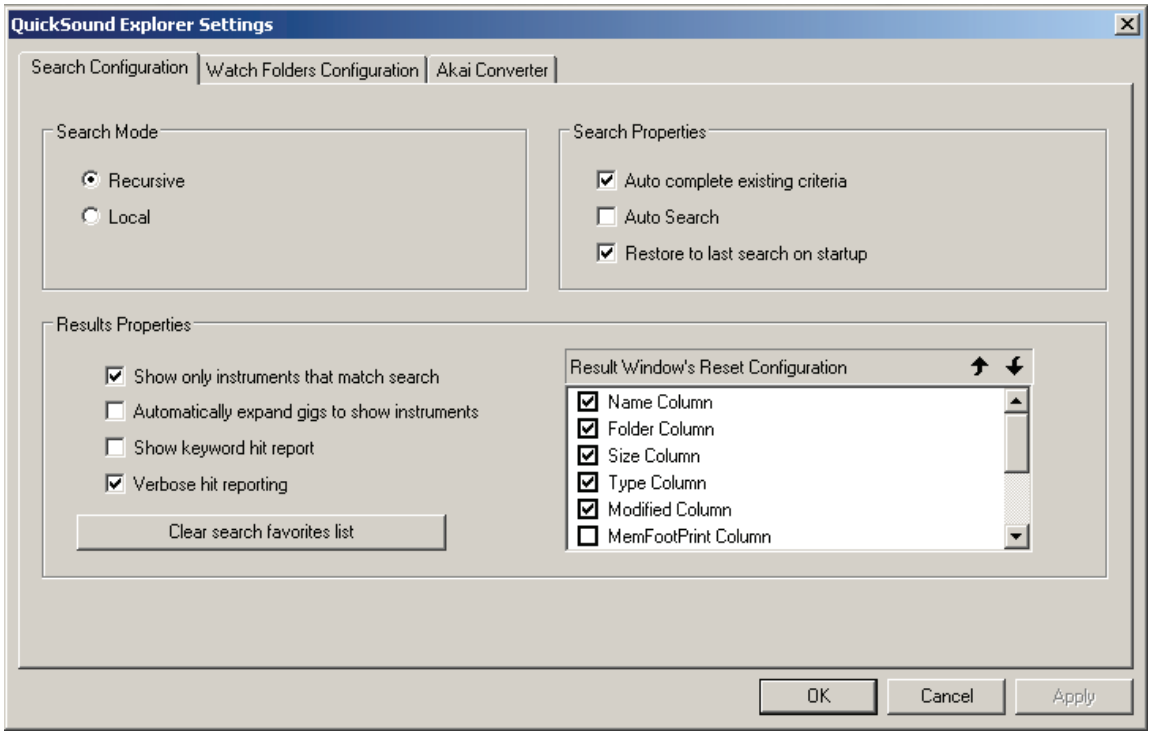


From left to right, the control strip offers:

- Search field. This is where you enter terms to search for particular sounds or file types.
- Toolbar. This contains three buttons for navigating the folder tree (Previous, Next, and Up one level), Audition and Stack buttons (these set defaults for how selected sounds will be placed into GigaStudio), a Play button for auditioning selected sounds, and a Configure button that allows setting various QuickSound default and search options.
- A drop-down menu for choosing which Giga product (assuming more than one is present on your system) will receive commands from the QuickSound Explorer.

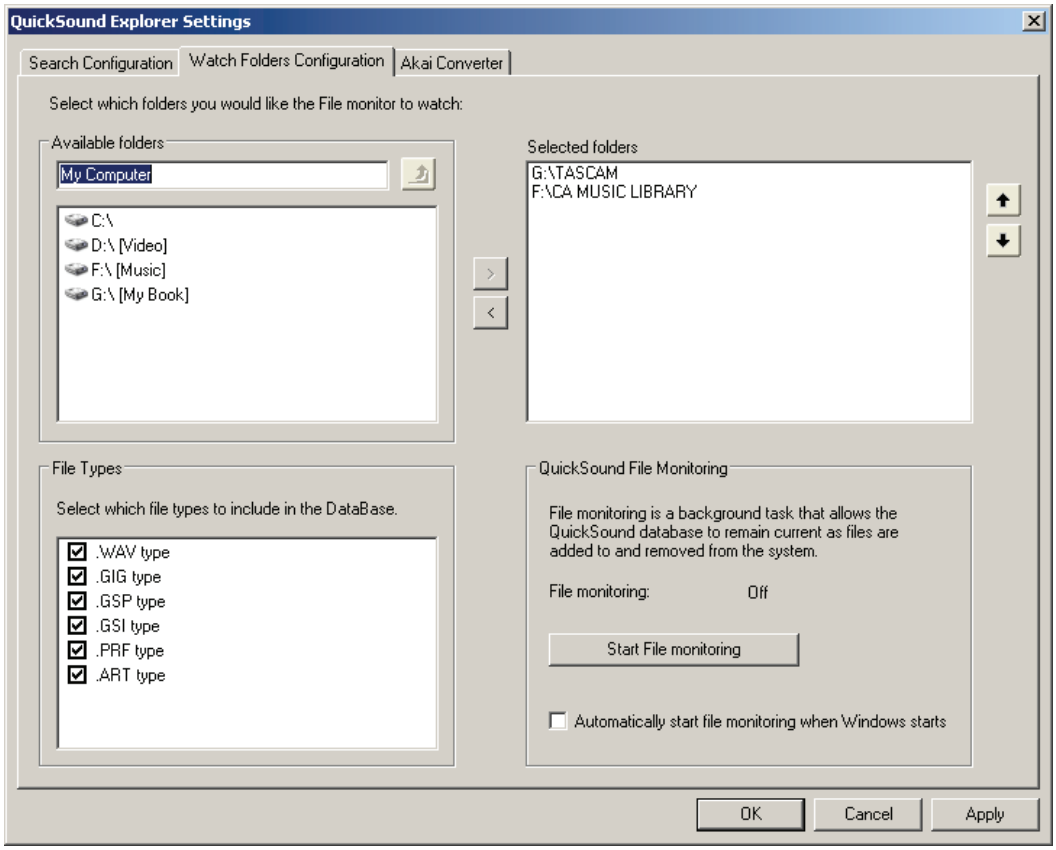
SEARCHING AND LOADING

Next we'll locate sounds, then load them. If you know where all your sounds are, you can of course just select them manually. But for now, pretend you don't have a clue where they are, which gives us an excuse to explore the Search function. Let's set up some search criteria.

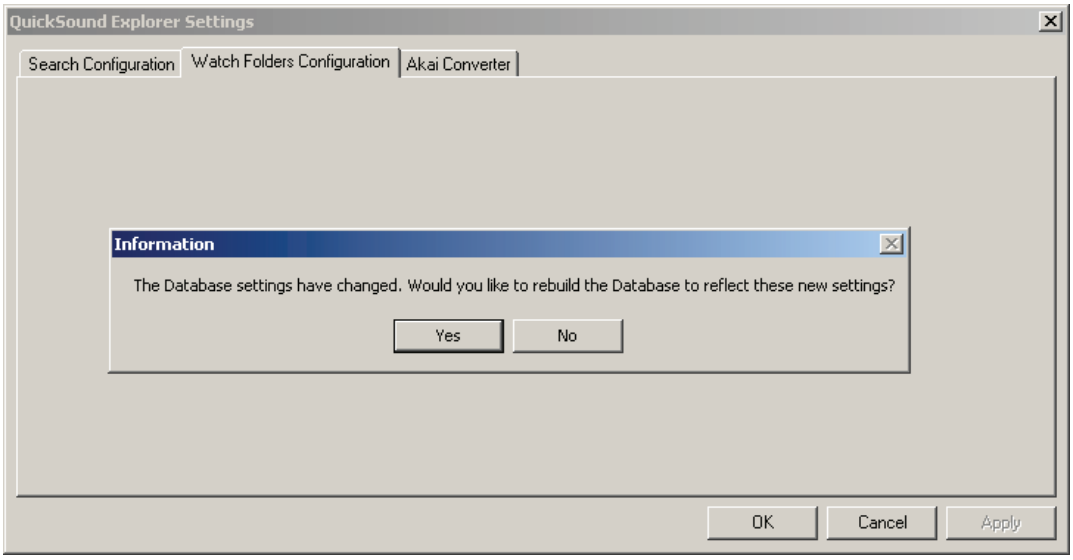


1. Click on the right-most icon (Configure) in the QuickSound Toolbar. This brings up the QuickSound settings window.

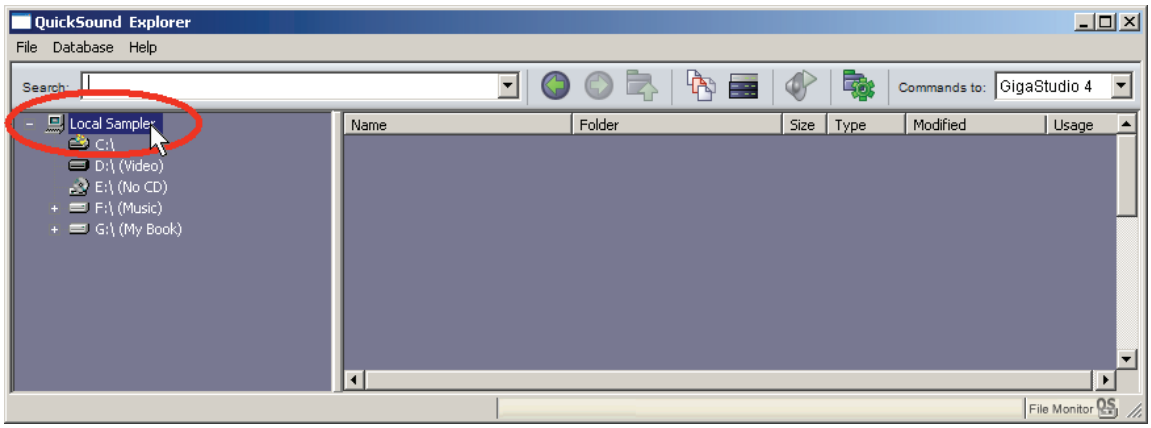
2. “Recursive” should already be checked under Search mode so that GigaStudio will search in folders within folders. If you select “Local,” the search will take place only in the folder (directory) highlighted in the Folder Tree. Under Results Properties, check “Show Only Instruments that Match Search” to keep things simple for now. (When you check this box, you’ll see a warning suggesting that you leave it unchecked. After going through the QuickStart, remember to uncheck this box.



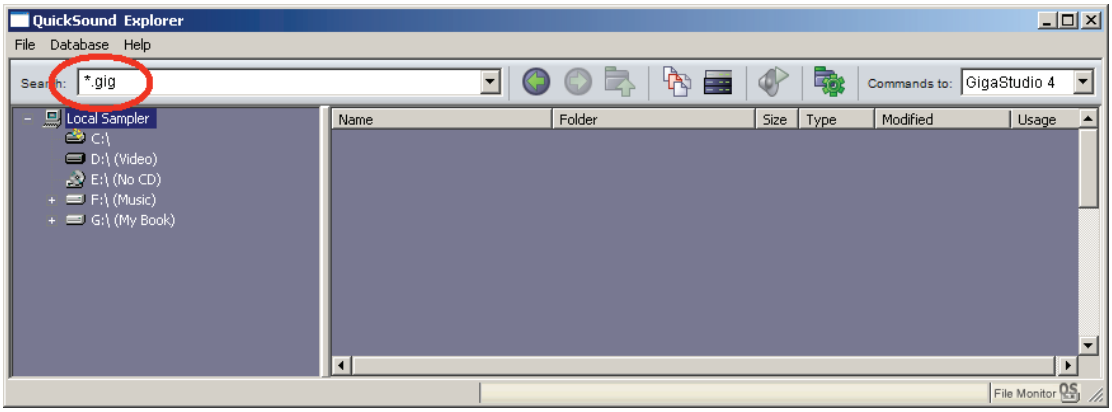
3. If you haven’t already, copy at least some of the included content on the GigaStudio DVD-ROMs to your hard drive. Remember that like most audio software, GigaStudio performs best when you use one hard drive for the operating system and applications, and a second drive for GigaStudio content.
4. Click on the “Watch Folders Configuration” tab to open another window where you can select particular File Types you want to include in the QuickSound database, as well as the drives to include or exclude in searches. Check all File Types for now.
5. To include a drive in the database, click on it in the Available Folders pane to highlight it, then click on the arrow that points to the Selected Folders pane. To include a folder within a drive, double-click on the drive, highlight the desired folder, and again, click on the right-pointing arrow to place the folder in the Selected Folders pane. To move back up a level in the folder tree, click on the “up arrow folder” button. To remove a folder from the Selected Folders pane, highlight it then click on the left-pointing arrow. *Be sure to highlight the folder into which you dragged the GigaStudio instruments in step 3.*
6. You will then be asked if you want to rebuild the database to reflect the new settings, Click on “Yes.”



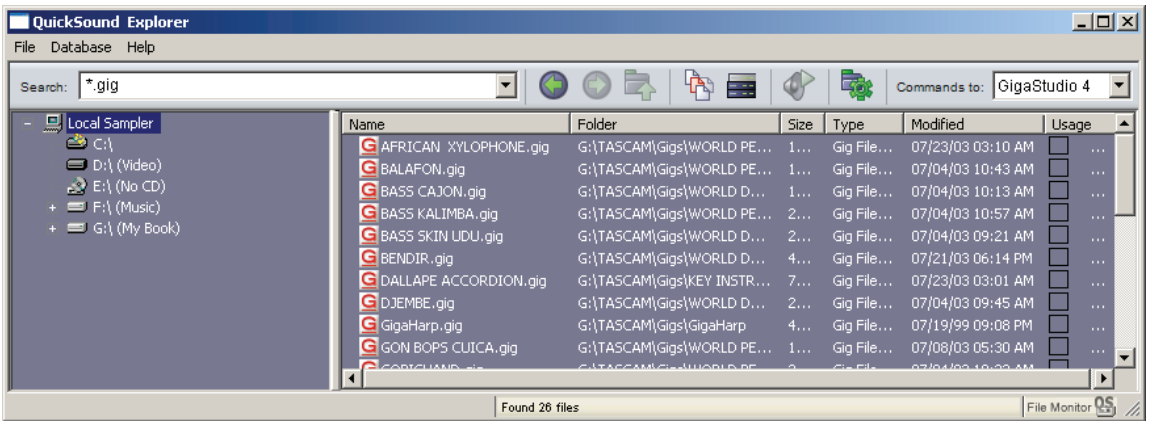
7. GigaStudio flies through your hard drives and updates the database, then looks for .gig files to display because that's what you specified in the Search field. The updating process can take a while, depending on how many files you have stored on your drives, the size of your drives, and how many drives you're searching. (The main manual describes how to use GigaStudio 4's File Monitoring option to update the database automatically, as samples are added or removed, so you won't need to do long database rebuilding in the future.) A progress bar toward the lower right informs of you of QuickSound Explorer's progress in finding files, how many files has found to add, and the file names as they're being added. When this flurry of activity is done, the progress bar disappears and the database has been built.



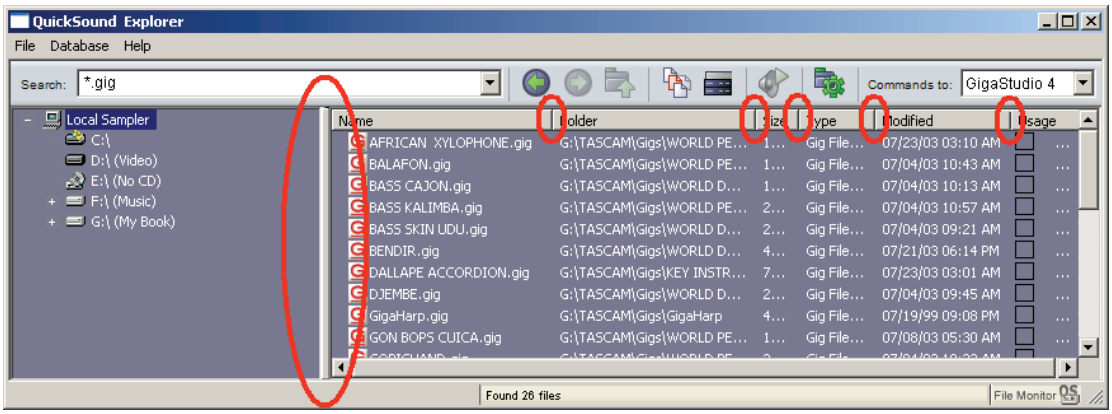
8. Let's find some files. To search throughout the entire database, click on Local Sampler. To select a specific drive or folder where you want to search, click on it in the Folder Tree view.



9. Type the search string in the Search field. Here we've typed *.gig to find all GigaStudio instruments. Note that the * symbol is Windows shorthand for "any text string," so this would find *anything* with a .gig suffix. You can also type "filters" for other file types like GigaStudio Performance (.gsp), WAV files (.wav), names of particular instruments (e.g., piano, guitar, etc.), and various instrument properties (e.g., company, engineer, equipment, and the like) You can find these keywords by right-clicking on an instrument (in the QuickSound pane) and selecting "Properties." As you enter search terms, these become part of a list of favorites accessed via the drop-down menu to the right of the search field. You can also clear all search terms under "Search Configuration" (click on "Clear Search Favorites List"), in the QuickSound Explorer Settings window.



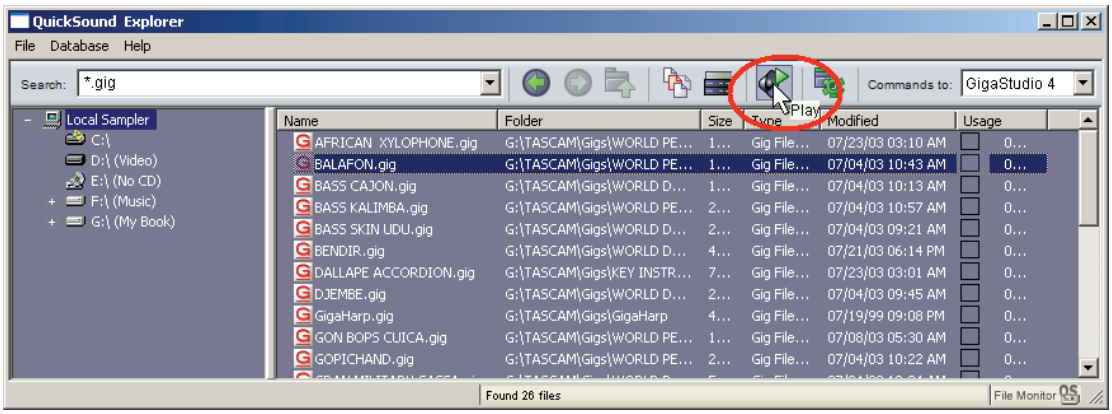
10. After typing in the search term, hit Enter or Return on your computer's keyboard. Almost instantly, files that meet the your search criteria show up in the Instrument List view. The strip toward the bottom of the QuickSound Explorer screen shows how many files that fit the search criteria were found.



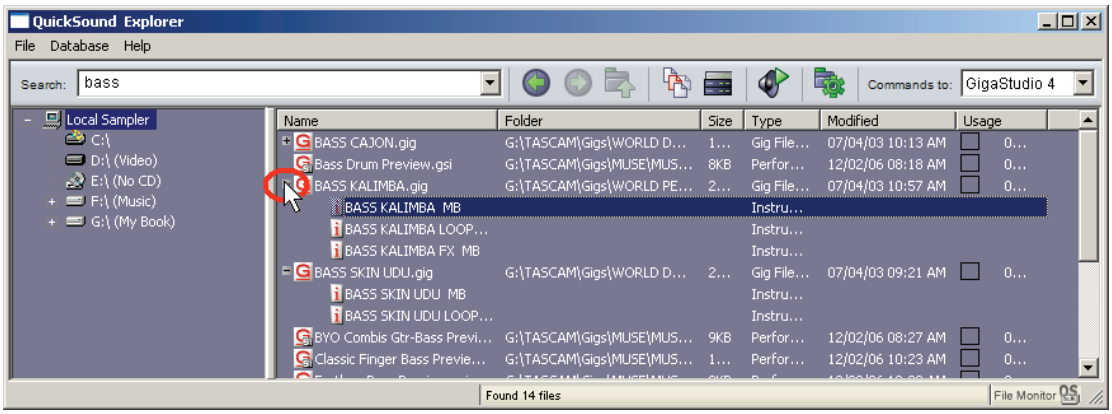
▶ *Note that the Instrument List View shows the complete file path for the files, as well as their sizes. If you can't see all of this, you can resize the QuickSound Explorer window, as well as move the vertical splitter bars between the various category headings (name, folder, size, etc.) to give more space to a particular category. All moveable splitter bars are shown circled in the above shot.*

LOADING INSTRUMENTS

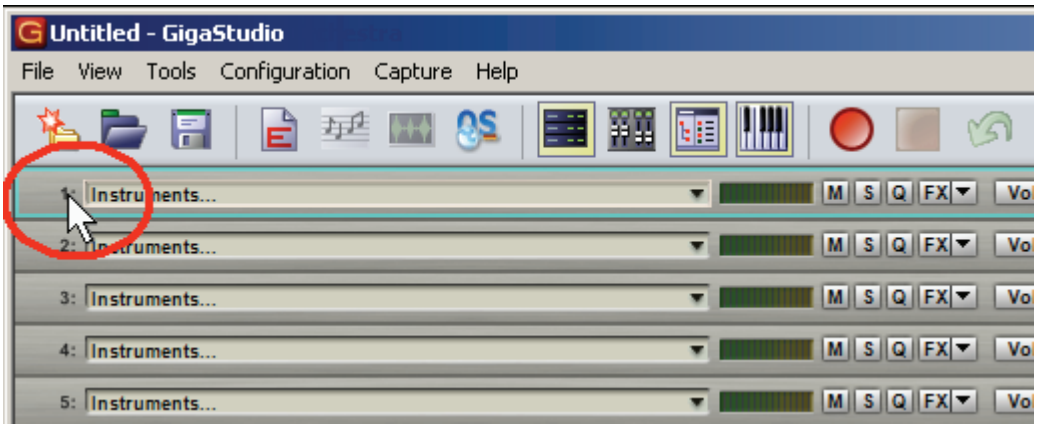
The Instrument List View now shows what instruments are available for loading. But perhaps you want to refresh your memory as to what a particular instrument sounds like before you load it...no problem.



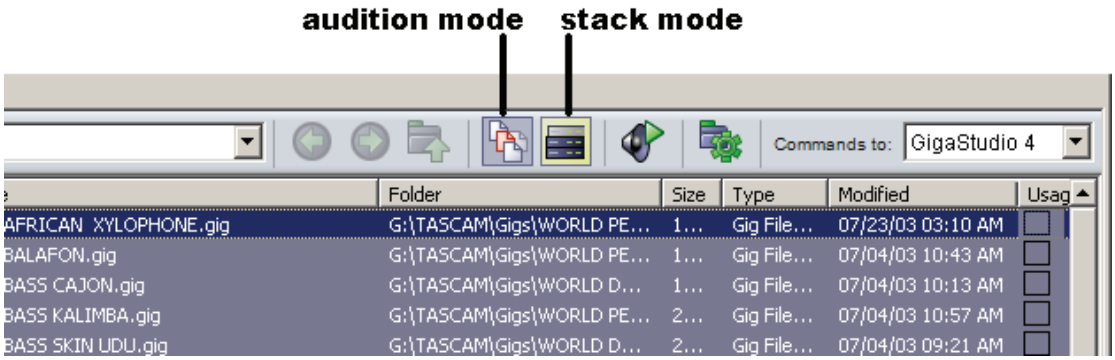
1. Click on one of the Instruments in the Instrument List View, then click on the Play Audition Sample button. Click again to stop the audition. Repeat until you've listened to all the Instruments you want to audition.



2. Let's see if the Instrument contains different patches. Click on the small + symbol to the left of the Instrument name to expand it. Underneath the name, you'll see anywhere from one to many patches. In this example, the Bass Kalimba GIG file has three patches, whereas the Bass Skin Udu.gig file has two variations.

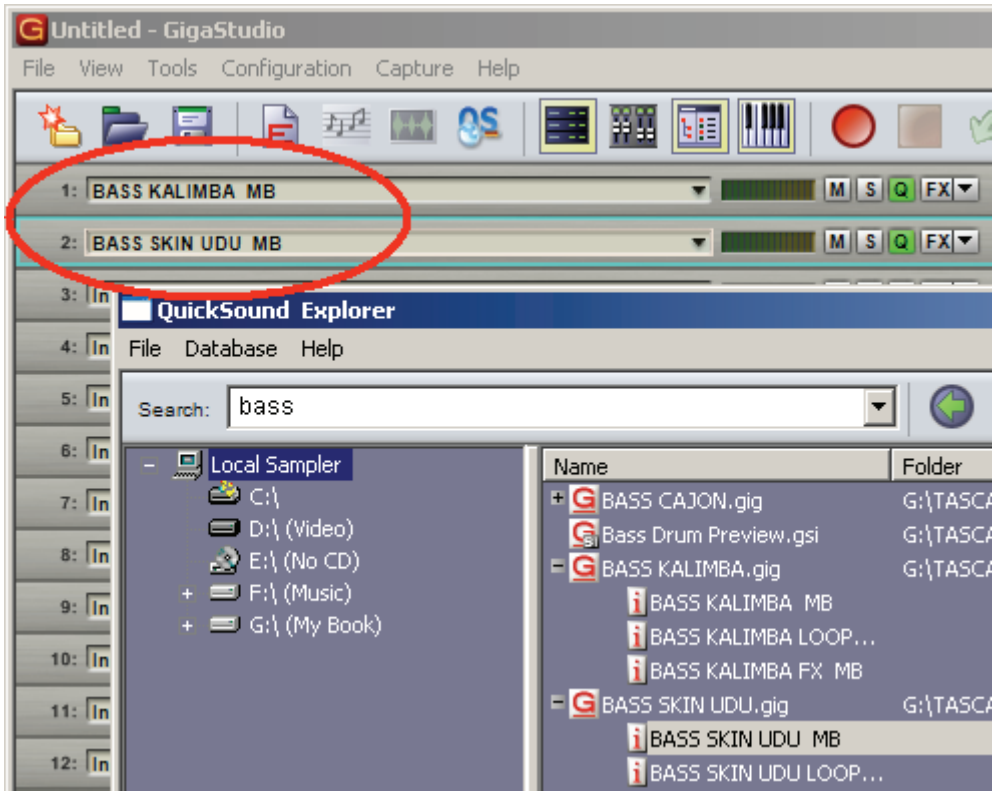


3. Now decide which slot should hold the instrument you want to load. Click on the slot number to the left of the slot. This outlines the slot in blue to show it has the focus; therefore, any instrument you load will go into that slot. (Actually you can click anywhere in the slot to select it, but clicking on the number is safer because you don't want to click on a control or button accidentally.) For now, click on Slot 1.



4. You can determine how the instrument will be loaded when you double-click on it in the QuickSound Explorer window: Either it will replace whatever instrument is in the slot (Audition Mode) or layer with the instrument (Stack Mode) that's in the slot. You select the desired mode in the QuickSound Explorer toolbar; select Audition Mode for now (the button to the right of Audition Mode selects Stack Mode).

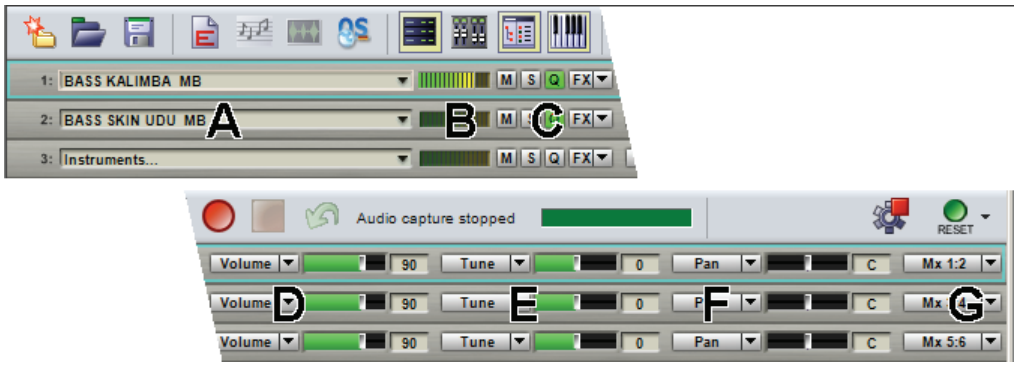
5. In the QuickSound Explorer window, double-click on the patch for the instrument you want to load. GigaStudio starts pulling data off your hard drive as fast as it can, and stuffs it into the selected slot. A bar shows loading progress; loading may take a few seconds with large files. Note that you can also drag-and-drop GigaStudio files into a slot.



6. Now select slot 2 and load another instrument. When loading is done, each slot shows the name of the loaded instrument. If you're using an external MIDI keyboard, Slot 1 responds to channel 1, Slot 2 responds to channel 2, and so on. Set the channel of your master keyboard to drive the appropriate slot. If you're using the Virtual Keyboard, it will play whichever slot is selected—no channel setting required.

EDITING INSTRUMENTS

Select the Instrument in Slot 1. Let's look at some of the available MIDI mixing parameters (note that due to the width of the MIDI mixer, it's shown here split in half to avoid reducing the size too much).



Each slot has a strip of editable parameters. Going from left to right, these are:

A The name of the Instrument loaded in the slot.

B A meter that shows velocity. Hit a few keys on your keyboard, and you'll see the corresponding amount of velocity.

C Four buttons—(M)ute, (S)olo, (Q)uickEdit editor, and FX. Mute turns off the slot's audio, Solo mutes all slots that aren't soloed, QuickEdit brings up massive numbers of ways to tweak the slot's sound (as we'll discover soon), and FX allows editing effects for Instruments using convolution.

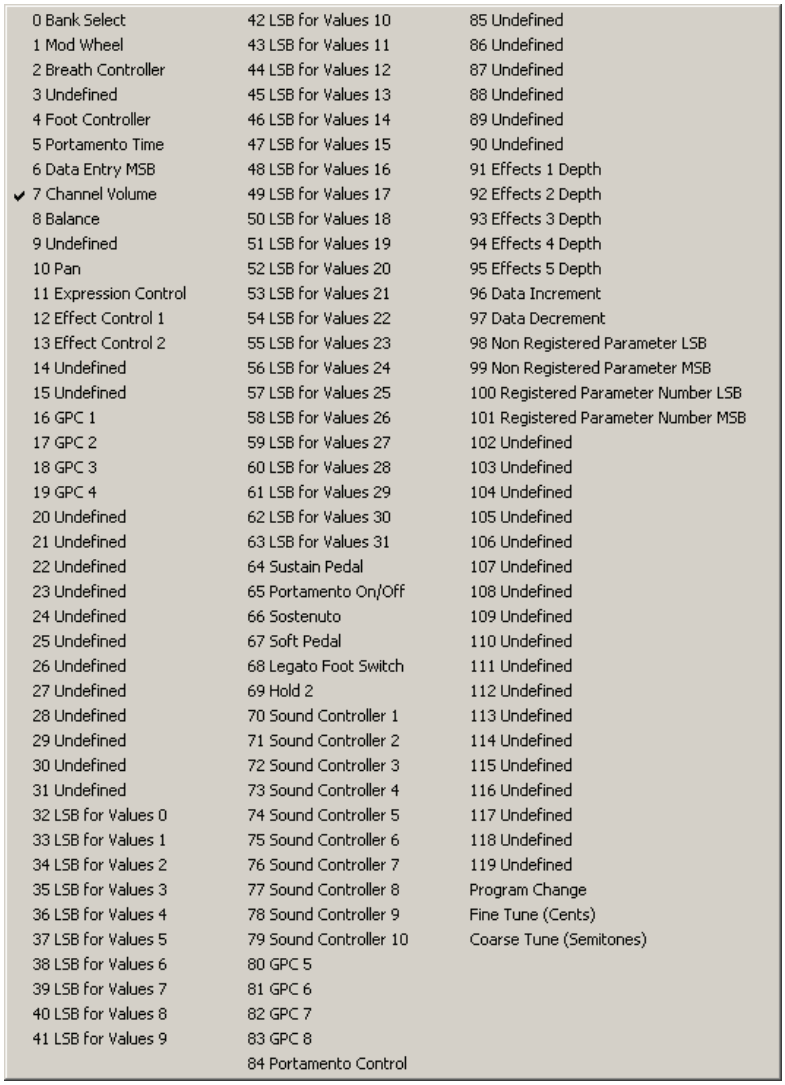
D Controls MIDI volume, from 0 to 127 (default is 90). Drag the slider left to lower volume, right to raise volume. Note that you can also adjust volume using the DSP-based mixer, as described later.

E Tune changes the tuning from -100 cents to +100 cents.

F Pan places the position of the Instrument in the stereo field (anywhere between left and right).

G The drop-down menu here chooses from one of the available audio outputs.

▶ *Note that you can return most GigaStudio controls (including volume, tune, and pan) to their default position by Ctrl-clicking on the control.*



The volume, tune, and pan parameters can also be assigned to MIDI controllers. Click on the small triangle to the right of the parameter name to see a list of controllers like the one above (this shows that Controller #7, the standard MIDI control for volume, is assigned to the selected parameter—in this case, volume). Also note that Fine Tune and Coarse Tune are at the end of the list.

Select an Instrument slot and click on some virtual keys to hear it. Adjust the volume, pan, and tune controls to hear their effect on the sound. Then audition any other Instruments that are in other slots. When you're done, return all parameters to their default positions.

MEET QUICKEDIT

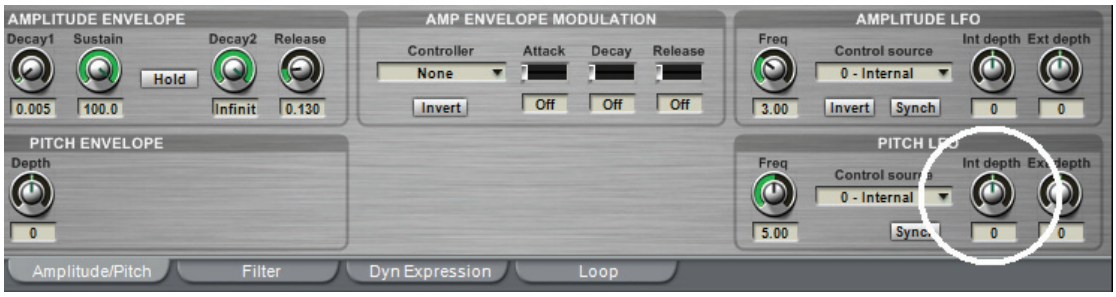
Hit a slot's Q button, and the QuickEdit window appears. There are four main modules: Wave, Articulation, Dimensions, and Keyboard.

Articulation has five tabbed views, which include the type of modules you'd find in synthesizers to process the sampled wave: Envelopes, filters, LFOs, etc. GigaStudio's unique "dimensions" capability allows (among other things) MIDI controllers to switch or crossfade among various samples.

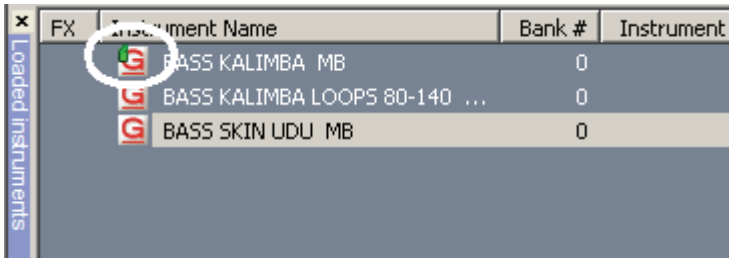
Note that because this window takes up a lot of space, the show/hide buttons circled above let you "fold" or "unfold" the various sections so you can see only those that are of interest.

Although this is a QuickStart and not a course on synthesis, if you're into synthesizers and are familiar with typical synthesizer modules, feel free to play around. For example, to change the timbre, choose a

filter Type (your options are Lowpass, Highpass, Bandpass, and Bandreject), then vary the Cutoff parameter to change the tone, and Resonance to vary the "sharpness." Also, experiment with changing the filter envelope by varying its controls (Preattack, Attack, Decay1, etc.).



And how about adding vibrato? Click on the Amplitude/Pitch tab in the Articulation section, and increase the Pitch LFO Int Depth parameter value to about 40.

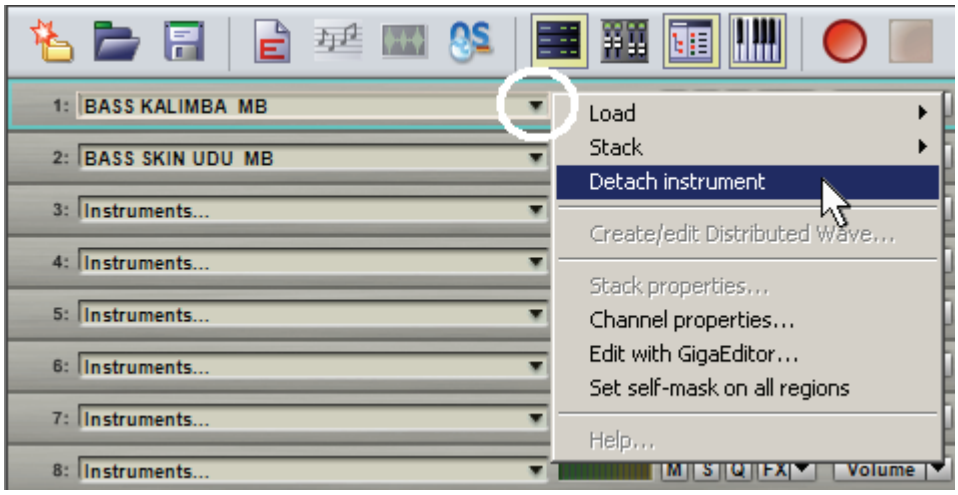


Note that once an instrument is edited, a small green indicator appears on the instrument's icon in the Loaded Instruments view.

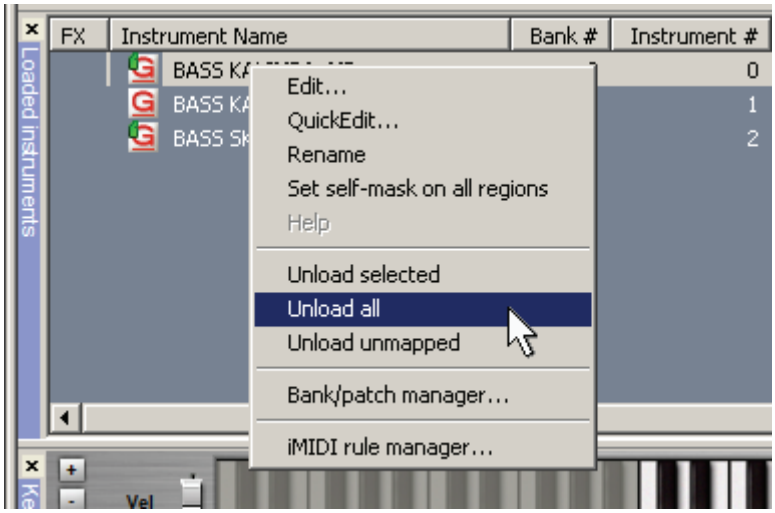
This gives you only the slightest idea of the power of QuickEdit (we haven't even looked at the iMIDI rules options, which are covered in the main manual). While QuickEdit defaults to editing all samples used in an instrument, it's also possible to edit each sample that makes up the instrument individually. For example, if your instrument is a drum hit, each drum can have its own filtering, envelopes, etc.

STACKING INSTRUMENTS

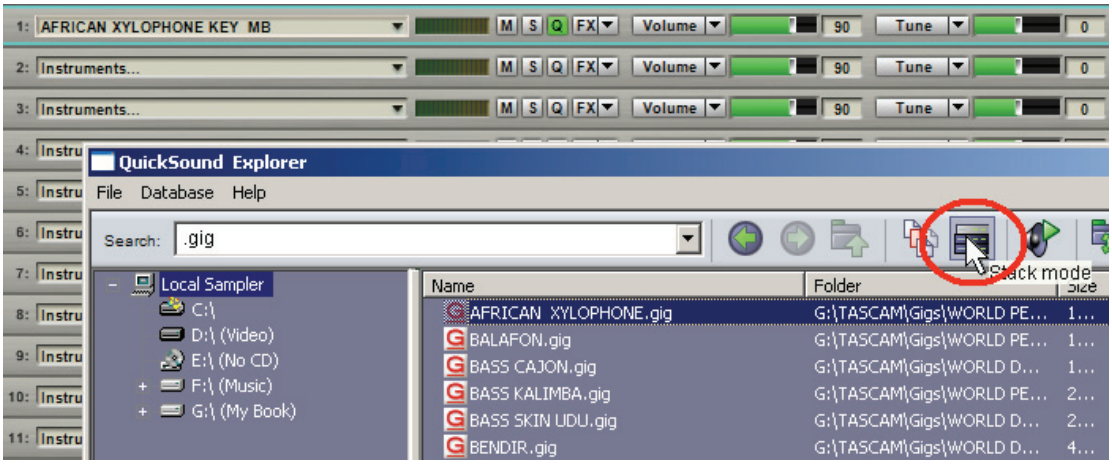
If you want to drive two or more instruments from the same MIDI channel, you can do so by using Stack Mode. Let's try it.



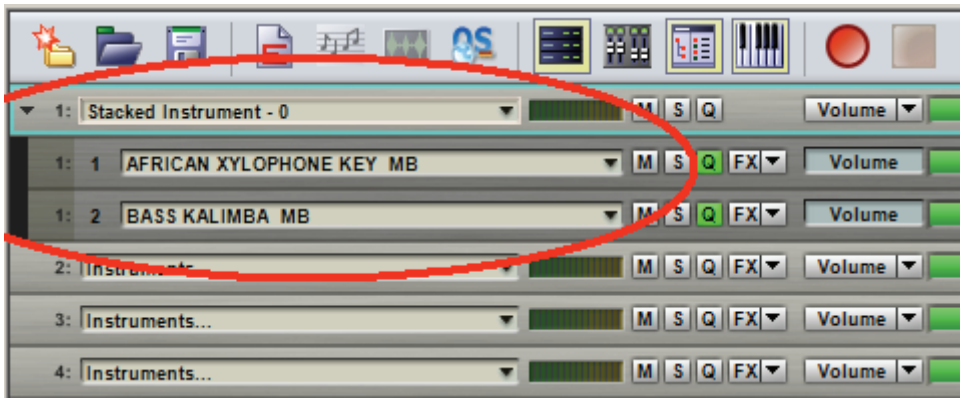
1. Start by "detaching" any Instruments you've loaded so far. Click on the triangle to the right of the name field, and select "Detach Instrument." Detaching still keeps the Instrument loaded in memory, which is useful if you're going back and forth between different Instruments and don't want to have to load them each time. In other cases, you might want not only to detach the Instrument from its slot, but also remove it from memory to free up space for other instruments. Here's how to do this.



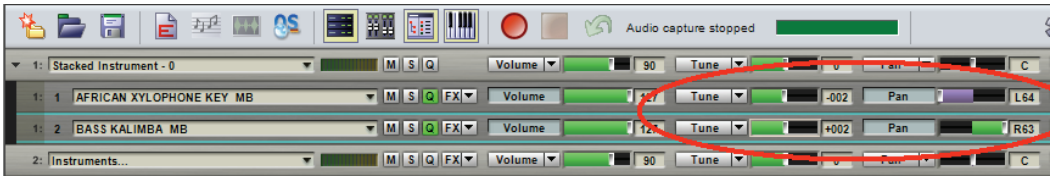
2. Right-click on an Instrument in the Loaded Instrument View and choose to unload all loaded instruments, just the selected ones, or just the ones that are unmapped. To start off with a clean slate, select "Unload All." When a dialog box appears that asks if you're sure you want to unload all instruments, click on "Yes." (And if you don't like "are you sure?" notices, check the "Don't ask this again" box.)



3. Click on Slot 1, and assign an instrument to it as we did before—by double-clicking on a program in the QuickSound Explorer Instrument List view. But before assigning another program, click on the "Stack Mode" button.



4. With Slot 1 still selected, double-click on a program in the QuickSound Explorer Instrument List view that you want to stack with the first Instrument you selected. The Slot is now called a Stacked Instrument, and you can see the instruments that are stacked underneath. Play a note on the virtual keyboard, and you'll hear them both play at the same time.



5. The stacked Instruments retain their individual identities. For example, you can pan them to opposite sides of the stereo field, change the fine tuning a bit to add somewhat of a chorusing effect, assign them to different outputs, and change their relative balance using the volume parameter. Experiment with these various parameters.

Leave the two stacked instruments in place for now. Next we'll explore the DSP Station, where we can do sophisticated mixing and adding effects.

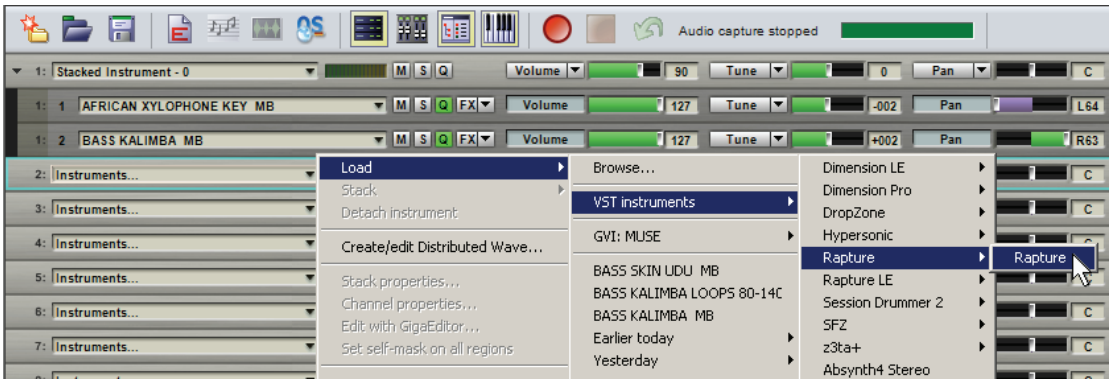
► *If you're loading a lot of instrument, check the memory meter in the status bar at the bottom of the window to make sure you're not running short on available memory. If the status bar isn't visible, go to the menu bar, choose View, and make sure that Status Bar is checked.*

LOADING VST PLUG-IN INSTRUMENTS

With GigaStudio 4, it is now possible to load plug-in instruments that conform to the VSTi (VST instrument) protocol. As a result, you can mix and match Giga instruments with other VST instruments, thus allowing GigaStudio to serve as a host for all types of instruments.

This is particularly useful in several ways:

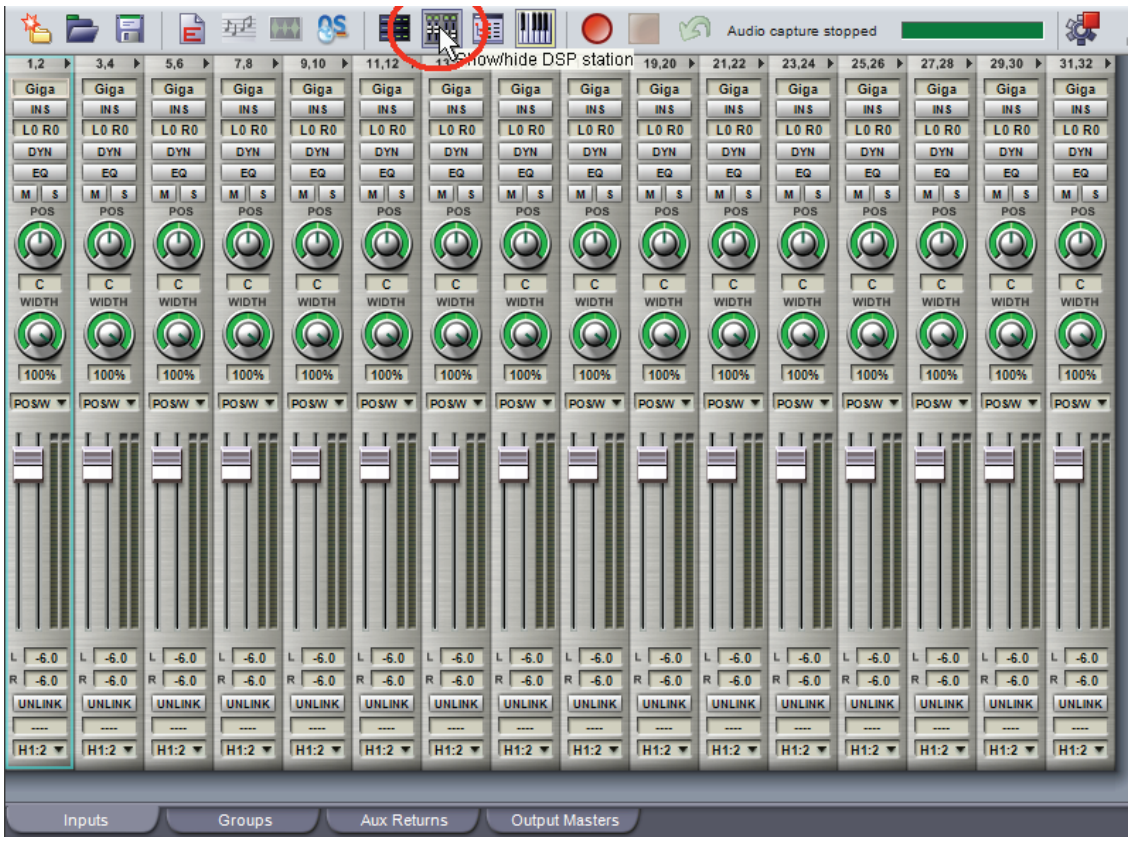
- For live performance, GigaStudio can apply DSP, such as EQ and dynamics, from the DSP Station (we'll get to that shortly) to virtually any instrument you want to make a part of your setup. Furthermore, you can mix them as desired.
- In the studio, a single instance of GigaStudio 4 can hold a variety of instruments, which you can then ReWire into your host program of choice.
- Many people run GigaStudio as a stand-alone instrument in their studio, with its own dedicated computer, and feed the audio (digital or analog) into their host program. Being able to load VST instruments into the GigaSampler environment means that these won't cause any CPU drain from the computer with your host DAW program.



To load a VST instrument, click on the downward-pointing triangle to the right of the instrument. Select Load, then VST Instruments; a list of VST instruments will appear. Choose the one you want.

THE DSP STATION: OVERVIEW

Click on the DSP Station show/hide icon to reveal GigaStudio's comprehensive virtual mixing console.



► *You may want to hide the Virtual Keyboard if you're short on screen space and want to see the entire DSP Station.*

Each channel strip in the DSP Station represents an output to which an Instrument was assigned on the MIDI Mixer page. For example, if an Instrument was assigned to outs 1+2, it would appear on the first (leftmost) channel strip. If it was assigned to outs 3+4, it would appear on the second channel strip (the next one to the right).

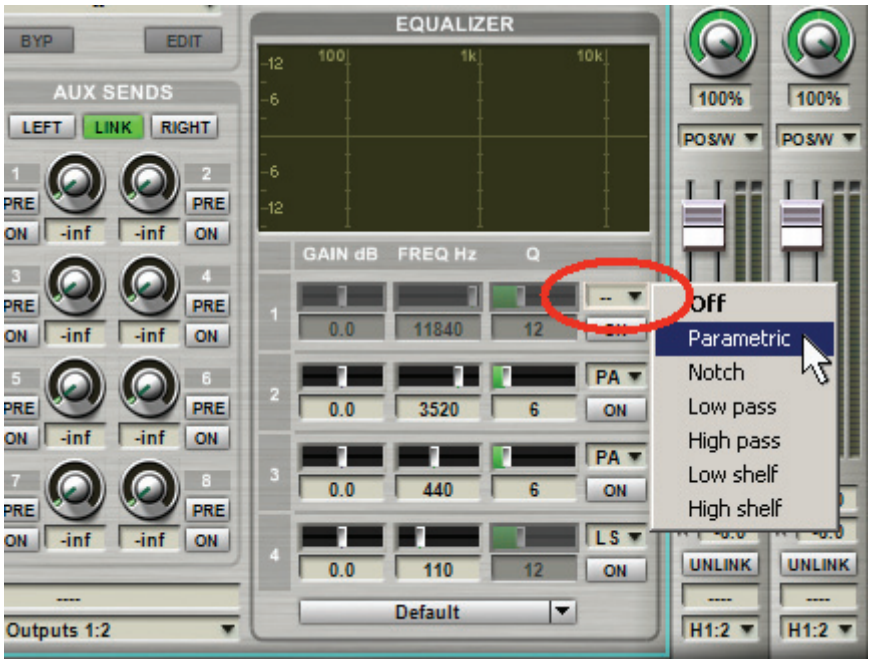
But the real action unfolds when you expand a channel strip by clicking on the triangle to the right of the output number at the top of the strip. This presents modules for EQ (four bands with six possible filter types per band), Dynamics control, Inserts for adding effects included with GigaStudio or VST plug-ins, and a set of 8 stereo aux sends.

The above shot shows three inserted effects: The GigaStudio NFX3 Tap/Delay, NFX3 Chorus/Mod, and a VST plug-in (PSP Audioware's Vintage Warmer)—yes, it can host VST plug-ins. You can see a little bit of the NXF3 graphic interface off to the right.

Dynamics, EQ, and the aux sends aren't doing anything—yet. That's the overview, now let's see how each of these elements works.

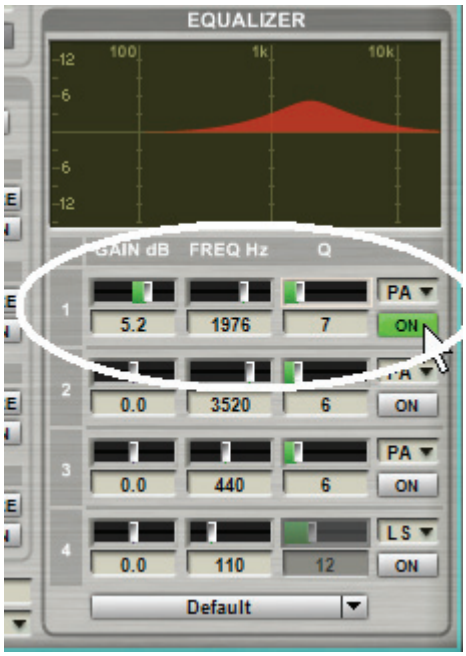
ADJUSTING EQ AND DYNAMICS

Let's adjust the EQ and create some tonal changes. We'll assume you still have a stacked instrument loaded from our previous examples, but if not, load something like a piano into one of the instrument slots.

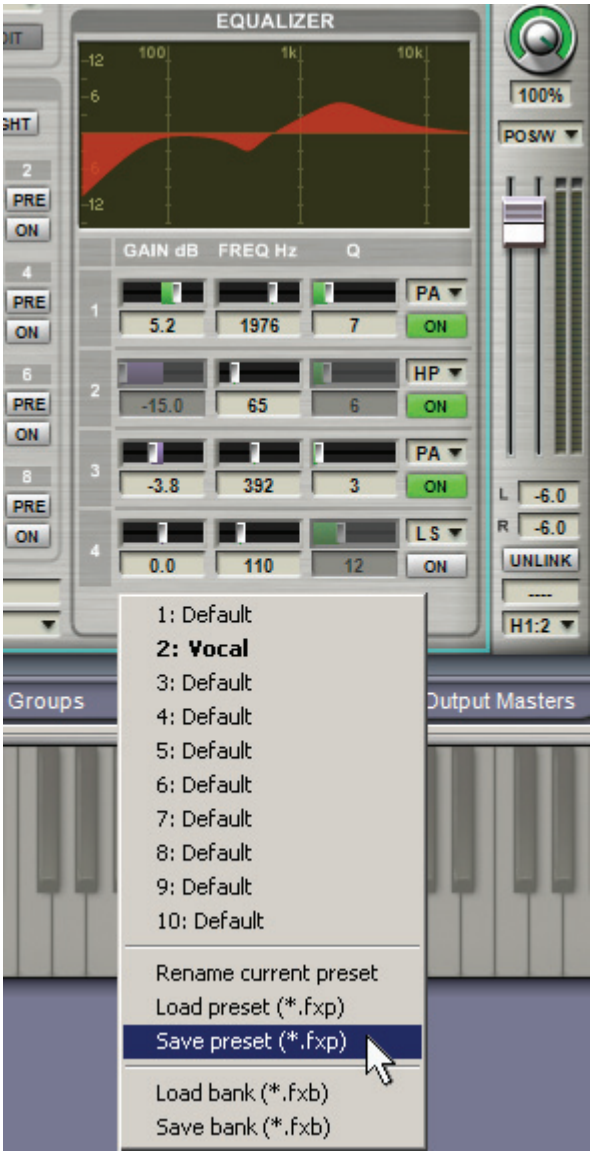


1. There are four stages of EQ; each one is identical. The field in the upper right corner has a drop-down menu where you can choose the filter type: Off, Parametric, Notch, Low pass, High pass, Low shelf, and High shelf. For now, choose Parametric in Stage 1 (the top filter).

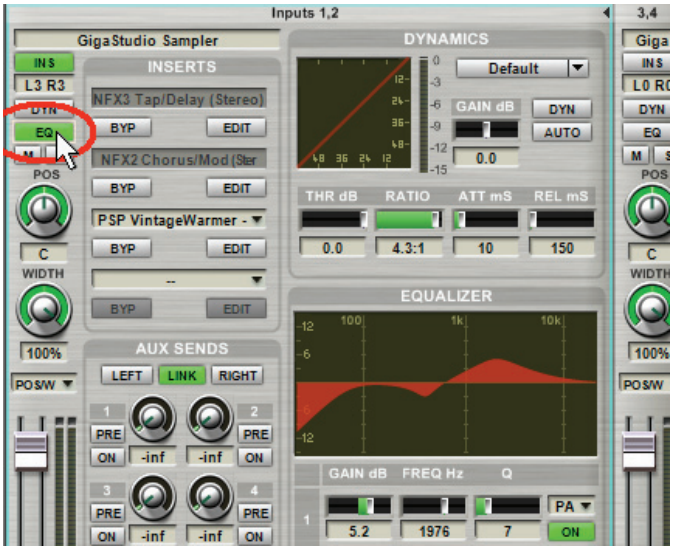
► *Refer to the main manual for a complete description of the various filter response types and how they affect the sound.*



2. Click the Stage 1 "On" button (it turns green to indicate it's on). Experiment with the Gain, Freq, and Q controls. Note how Q changes the width of the area being boosted or cut using the Gain control, while Freq determines where this cutting or boosting takes place.

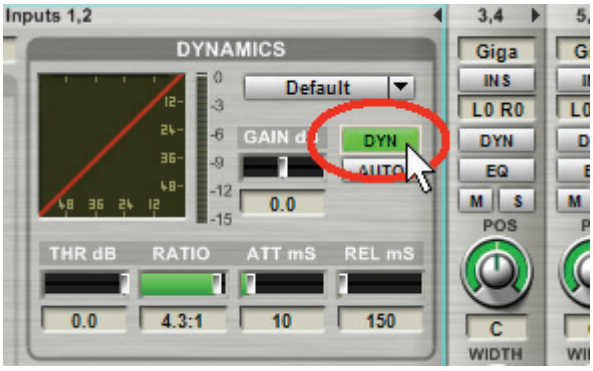


3. If you come up with a set of EQ settings you'd like to use again, you can create, name, load, and save presets. Click on the downward-pointing arrow toward the bottom of the EQ (it will say "Default" unless you've loaded a named preset or renamed a preset). Select "Rename Current Preset" to name the preset. "Save Preset" lets you navigate to where you want to save the preset; "Load Preset" allows you to navigate to where you have your presets stored, and load one. Note that there are 10 listed presets. This makes up a Bank; you can also save and load Banks of presets as well as individual presets (the last two entries on the drop-down menu).

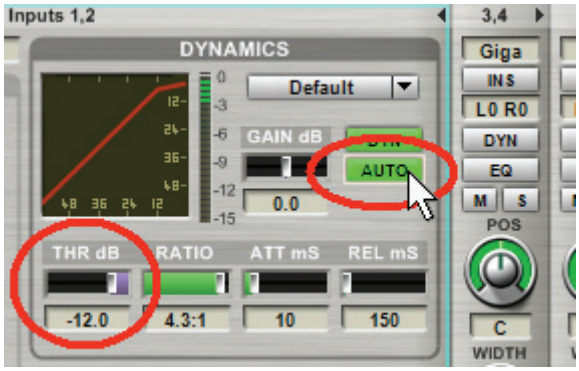


4. The reason each band in the four-band EQ has an on-off button is because EQ requires computer CPU power, so you don't want to enable any more stages of EQ than necessary. However, there's also a Master EQ on/off button in the main channel strip itself that turns off all bands of channel EQ. Before proceeding, turn the master EQ button off.

► *Note that there are also master on/off switches in the same area for turning the Dynamics and Insert sections on and off.*



5. For a punchier sound, let's add some compression using the Dynamics module. Click on the module's DYN (Dynamics) button to enable dynamics.



6. Set THR dB to -12. Signals above this level will be compressed. Leave Ratio, ATT, and REL at their defaults (4.3:1, 10, and 150 respectively). Also click on the Auto switch to automatically adjust the overall level and make up for some of the signal loss created during the compression process. Play a note; it will have a higher average level, and sustain longer if it decays. Compare the compressed sound to the uncompressed sound by clicking on DYN to turn off the sound temporarily.

► *The meter in the Dynamics module indicates the extent to which peaks are being reduced at any given moment. This is the basis of compression: by reducing the level of peaks, the overall volume can be increased, thus producing a louder overall sound.*

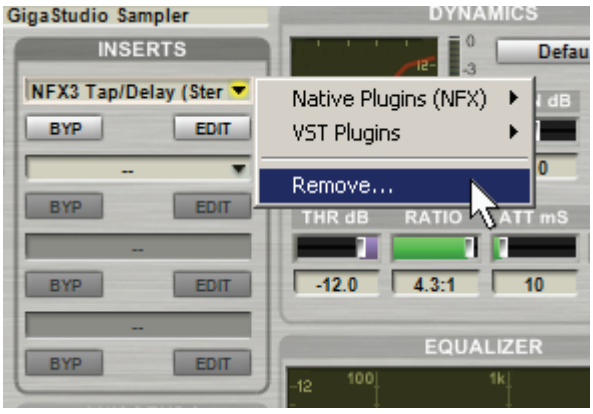
7. Now turn off Dynamics; let's insert one of the effects included with GigaSampler.

INSERTING EFFECTS

1. Click on the downward pointing triangle toward the right of the first effects Insert field, then go *Native Plugins (NFX) > NFX3 Tap/Delay (Stereo).*

2. The Tap Delay effect appears. Toward the top, under the Effect name, Default Patch should be selected. With Tap 1 enabled, turn up the Wet level (toward the lower left) as well as the tap's Volume slider so you'll be able to hear the delayed sound. Now experiment with the Delay, Feedback, Damping, and Pan controls to hear how they affect the sound. Use the Wet and Dry sliders to vary the balanced of unprocessed and delayed sounds.

► *Note that there are four individually adjustable taps, as well as a Contour section that lets you tailor the overall frequency response. This is a versatile effect, so be sure to check out the manual for what the various NFX can do. GigaStudio can also load VST format effects if you have any installed on your system.*

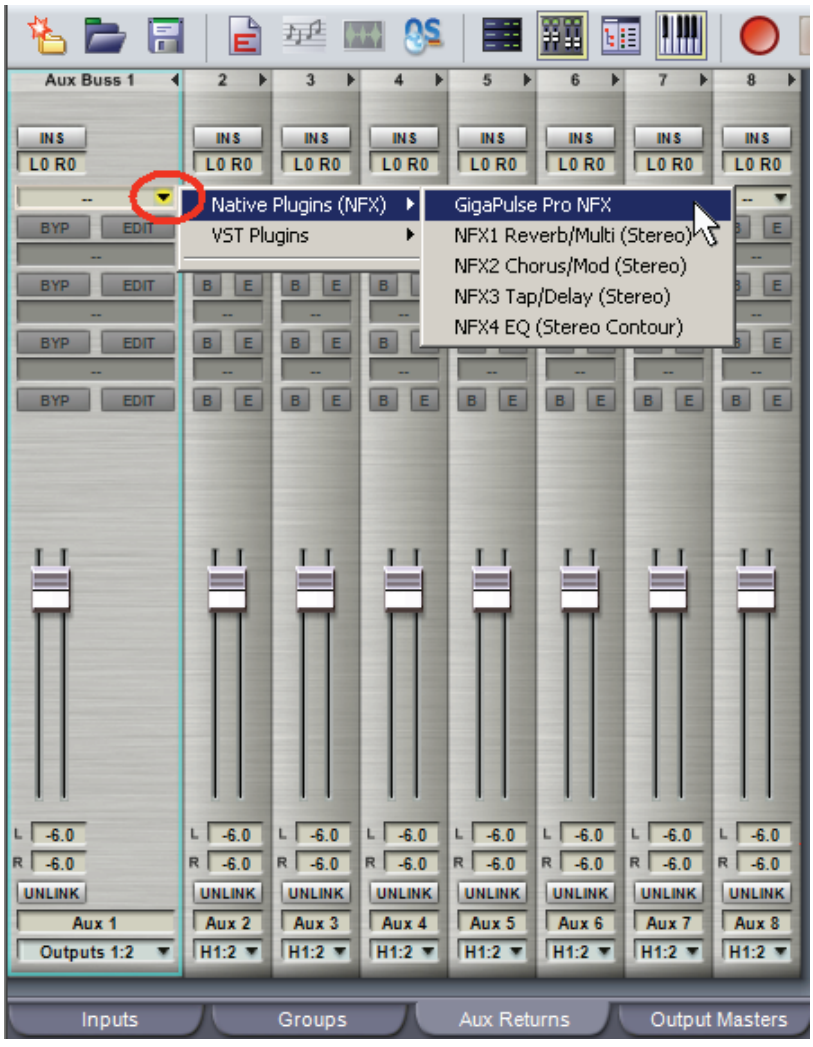


3. Remove the effect by clicking in the Insert field as if you were going to insert an effect, and select Remove. We now know how to add and remove effects from a channel, so let's investigate how to add an effect to multiple instruments simultaneously using an Aux bus.

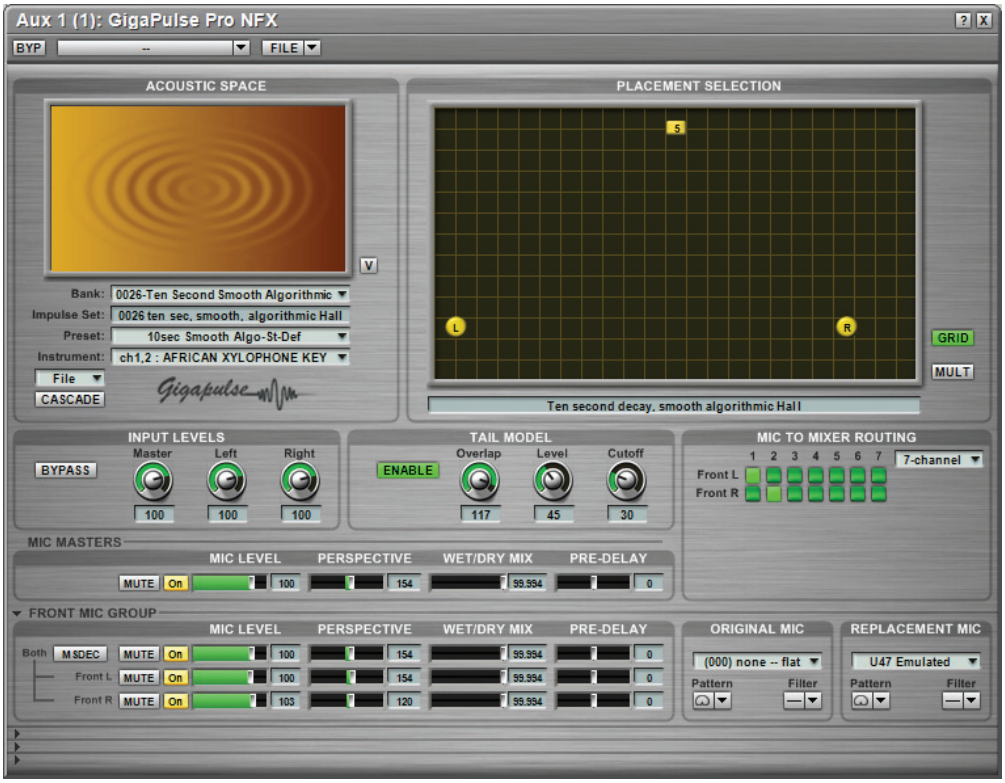
AUX BUSES AND AUX EFFECTS

An aux bus contains one or more effects. Each channel has a *send* control that can send some audio into this bus, and this audio will pass through the aux bus effect before returning into the mixer. Aux bus effects are ideal for adding effects (such as room ambience) that are intended to affect multiple channels. For example with ambience, sending more signal from a channel into the aux bus increases the apparent amount of ambience, allowing you to control a sound's "depth" within a mix.

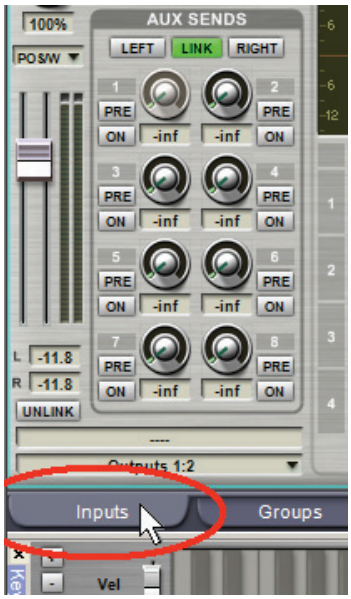
1. Click on the Aux Returns tab to reveal the 8 aux buses.



2. These bus modules are called “returns” because here is where the signal returns into the mixer, with a master level set by the faders. Like the other DSP Station channels, clicking on the rightward-pointing arrow to the right of the Aux Buss Return opens it up. In this case, it shows the parameters more fully than when “closed,” where you see abbrevations for the parameters. Each Aux bus has four effects slots, just like the channels, and you insert effects similarly. Insert the GigaPulse processor into the top insert slot.



3. The GigaPulse screen appears. Under Bank, select *Preset 0026 – 10 Second Smooth Algorithmic Hall (2ch-1p).fxb*. Play a few notes; you won’t hear any difference yet (the sound is still unprocessed) because we haven’t yet sent any signal to the bus containing the GigaPulse. Then, drag the Wet/Dry control (Under “Mic Masters”) all the way to the right so that all Wet/Dry mix parameters read 99.994.



4. Click on the Inputs tab so you can see the expanded channel strip for the left-most channel (if it's not expanded, please expand it now by clicking on the rightward-pointing arrow to the right of the 1,2 channel number). We'll now adjust the amount of signal going to the GigaPulse.

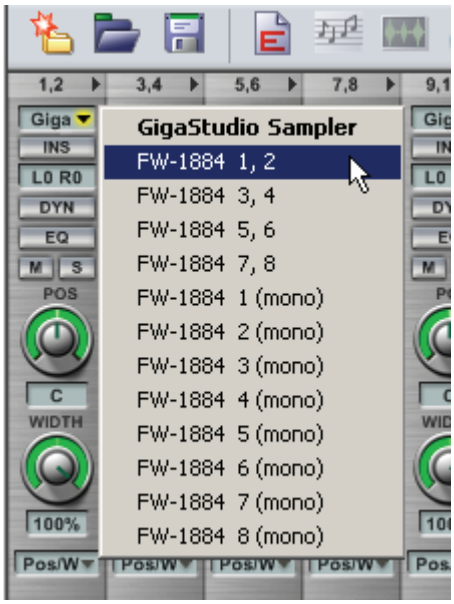
5. In the Aux Sends section, note the 8 controls that correspond to the 8 aux buses. As the GigaPulse is in aux bus 1, enable Aux Send 1 by clicking on its On button (it glows green), then turn up the Send control to around -25 or so. Play a note; you should now hear some room ambience added to the instrument you have loaded.
6. Go back to the GigaPulse screen; select different Banks and Presets, and audition some of the possible effects. Play with the master Perspective control to change the amount of room sound, but leave the Wet/Dry mix controls at 100%. Also experiment with the Original Mic drop-down menu. For example, listen to how "TubeExcite, Drive @ --Max"—adds "color" to the sound.

This is just a hint of what GigaPulse can do, but you've probably already figured out that one of the advantages of TASCAM's Convolution Reverb approach is stunningly realistic sound quality.

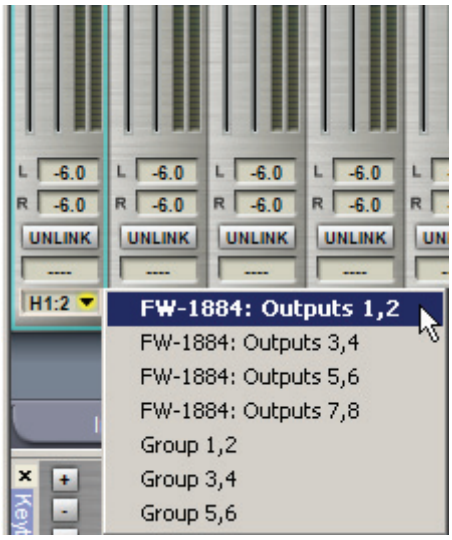
CREATING A DISTRIBUTED WAVE INSTRUMENT

A Distributed Wave instrument provides a way to assemble and audition samples quickly, then save them as a .GIG or .DW (Distributed Wave) instrument. You can play this instrument directly, reload it as a .DW file if you want to do more work on it, or bring it into the Instrument Editor (described next section) for further refinement.

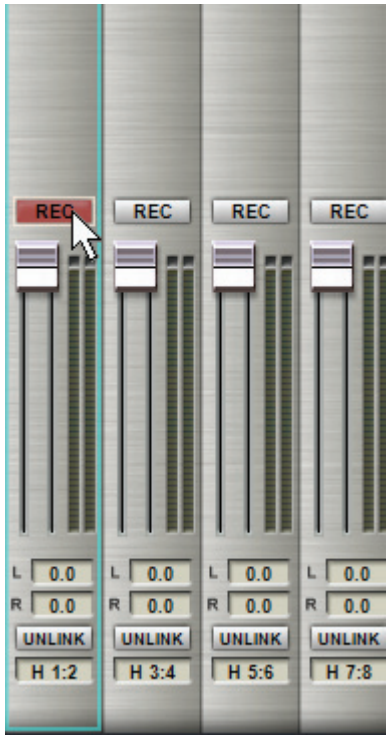
Although you can drag existing WAV files into the Distributed Wave instrument, we'll try recording some sounds signal into GigaStudio and using them. Note that this requires an audio interface with a GSIF 2 driver, and an audio source plugged into your audio interface's hardware input. If both aren't available, skip to step 6.



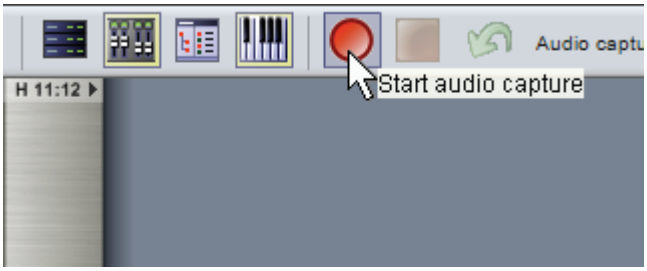
1. In the DSP Station screen, assign a mixer channel input to your hardware input.



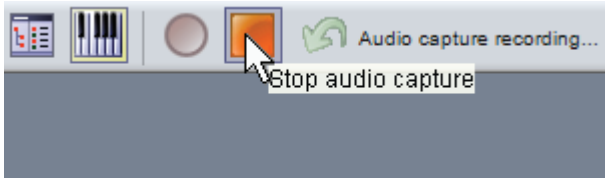
2. Route the mixer's output to a set of master outputs, then click on the Outputs tab.



3. Record enable the master output that's being fed from the mixer channel.

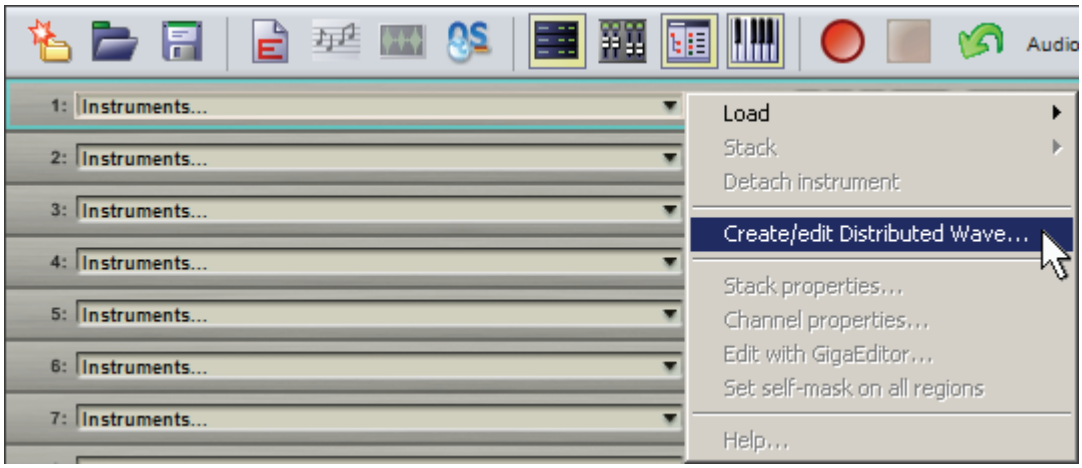


4. To capture audio, start playback from your audio source and click on the Start Audio Capture button. You'll be asked where you want to save the file.



5. When you're finished recording, click on the Stop Audio Capture button.

6. Click on the MIDI Mixer icon.



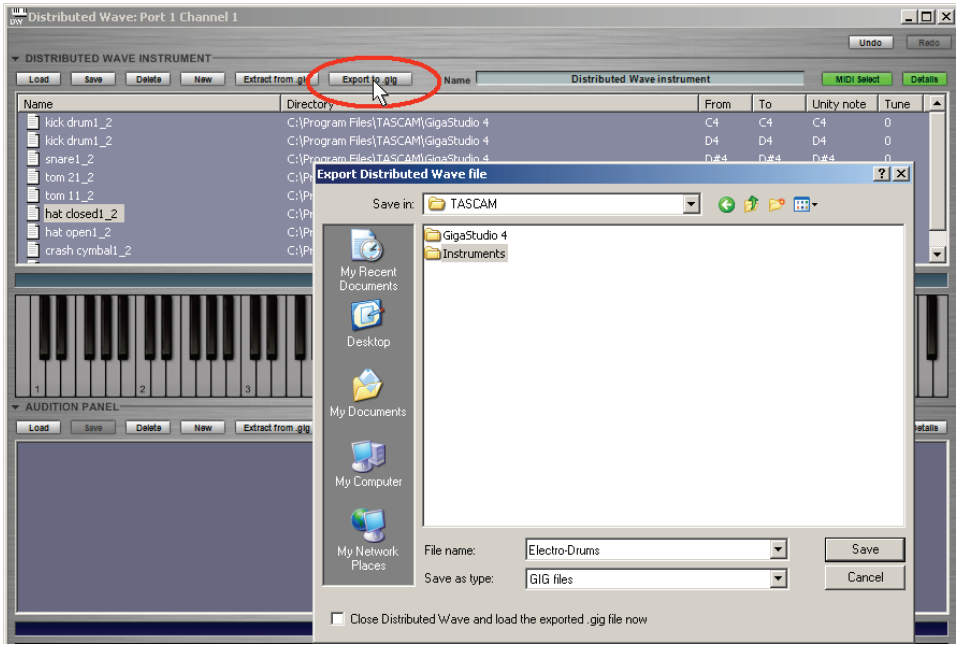
7. Click on the downward-pointing arrow toward the right side of an instrument slot (we'll choose Slot #1), and select Create/Edit Distributed Wave Instrument.

8. The Distributed Wave Instrument window appears. Note the three panes (two if you didn't capture any audio): The lowest one shows the most recent audio captures (you may need to "unfold" this by clicking on the triangle that points to Recent Wave Captures), the middle is for auditioning samples, and the upper, for arranging them into an instrument.

9. Drag WAV files in to the Audition pane from either the Recent Wave Captures window or any other place containing WAV files, and drop them on the keys where you want them to play. If you don't know where you want them to play, no worries: Drop them anywhere, audition them, and once you've decided where they need to go, create a more permanent placement in the upper pane. If you drag them all simultaneously to a key, they'll be arranged chromatically.

   Note that you don't need to record audio into GigaStudio to create a Distributed Wave instrument; you can simply drag WAVE files into the bottom pane, then assign them to keys.

10. Click on the keys to audition them. After deciding where the keys should be mapped, click on the small rectangular "handle" on top of each key, and drag it to the appropriate key on the upper pane.

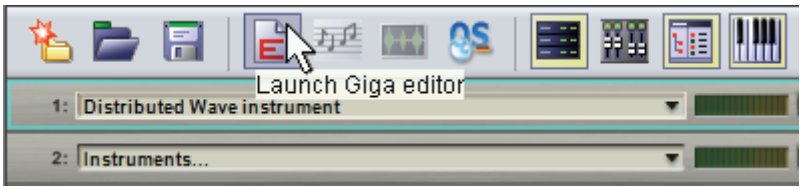


11. You can now click on Export to export the Distributed Instrument as a .GIG file, or click on Save (to the left of the Export button) to save it as a Distributed Instrument. If you want to start working immediately with the exported GIG file, check the box that says "Close Distributed Wave and Load the Exported .Gig File Now" before you click "Save."

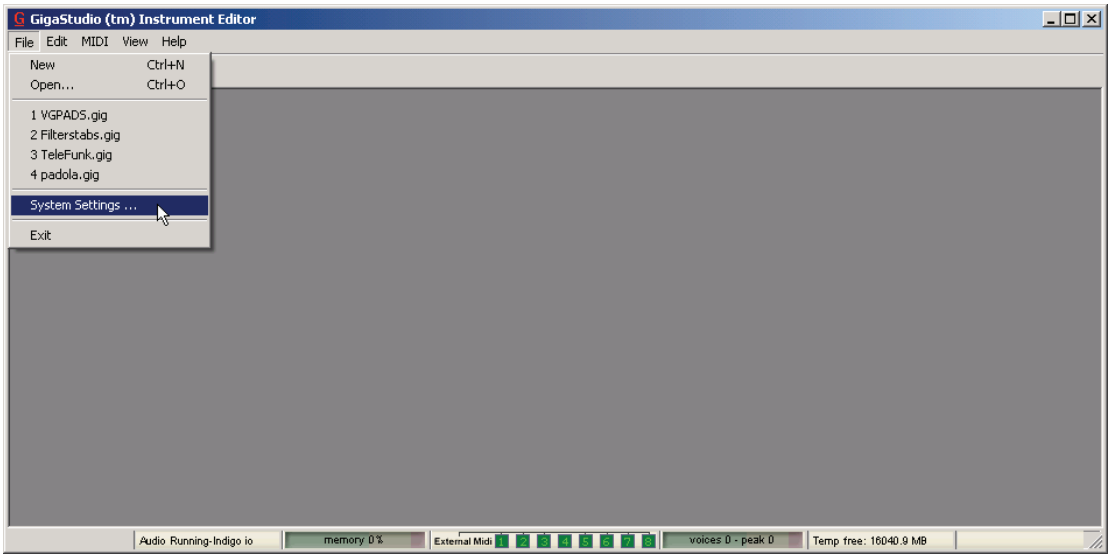
CREATING AND EDITING AN INSTRUMENT IN THE INSTRUMENT EDITOR

GigaStudio enjoys the support of a huge number of sample libraries, but there will likely be times where you'll want to make your own instruments. Although the process can of creating an instrument can be difficult and time-consuming, GigaStudio offers a "wizard" function for creating certain types of instruments that can slash creation time to a fraction of what you'd experience with other samplers.

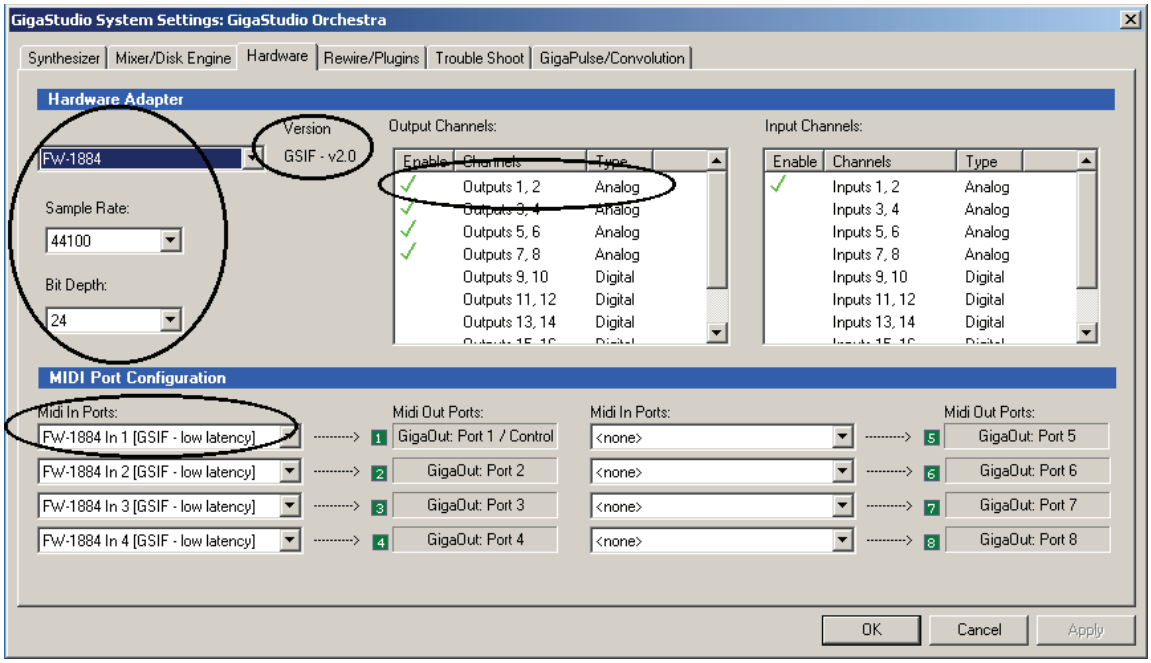
For this example, we'll create an octave of multisampled guitar sounds using a VG8 guitar synthesizer. This was sampled at four different notes (D2, F2, G#2, and B2) and furthermore, each note was sampled at four different velocities (soft, medium, loud, and loudest), giving a total of 16 samples. The Wizard will map these samples across the keyboard, as well as create splits for the four different velocities, then demonstrate ways to warp these basic sounds...all with a minimum of time and effort.



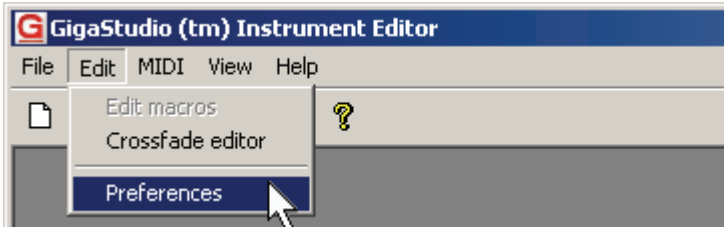
1. Click on the "Launch Giga Editor" button (you can also reach this by going Start > Programs > TASCAM > GigaStudio 4 > GigaStudio Editor, which is particularly handy if GigaStudio 4 isn't already open).



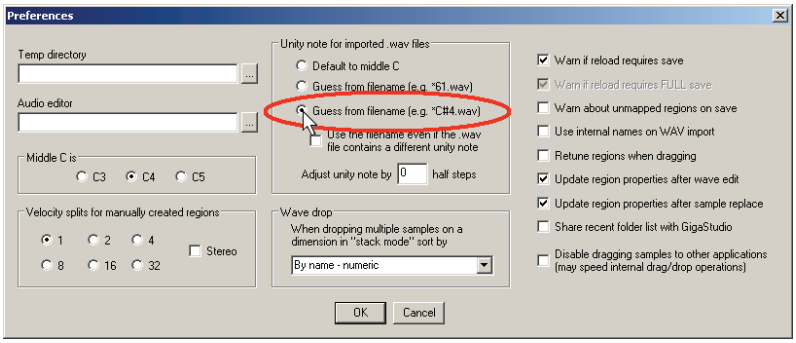
2. You'll be presented with a blank screen. Before proceeding, let's make sure everything is set up properly, so go *File > System Settings.*



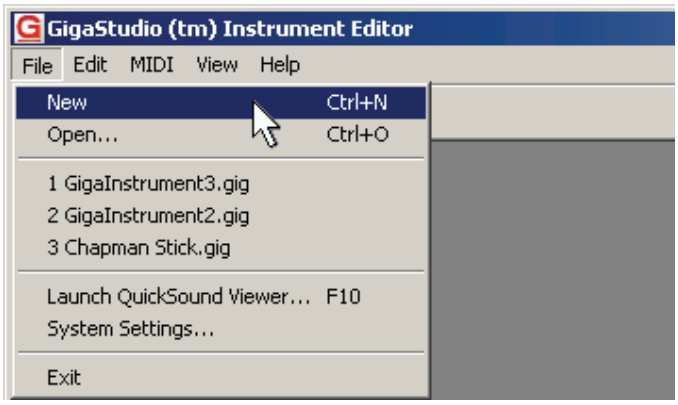
3. As with Gigastudio, verify that your audio interface and MIDI input ports are recognized, that GSIF drivers are being used, and that at least one output pair of channels is enabled.



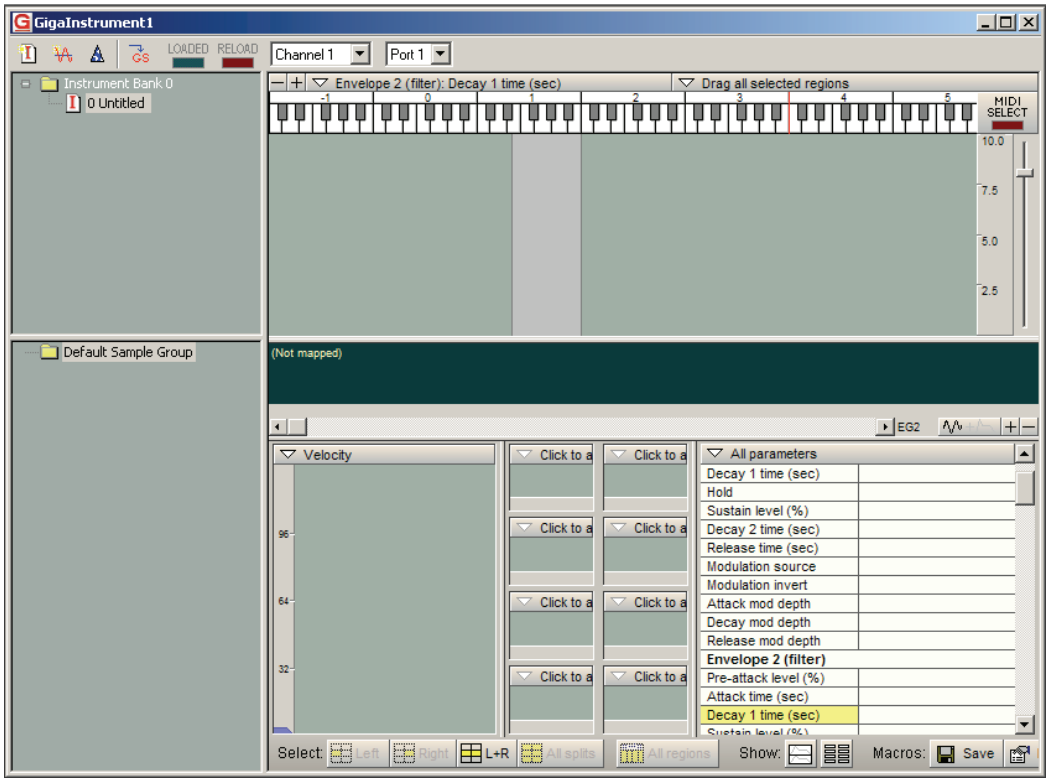
4. We also need to verify some Preferences, so go *Edit* > *Preferences.*



5. GigaStudio uses a Wizard, not a Psychic, so it needs you to supply some information about the samples you want to load in order to map them properly across the keyboard. For example, if one sample is at “C2” and another is at “F#2,” then GigaStudio knows to place the first sample on the C2 key and the other sample on the F#2 key. That leaves a gap between them of four notes (C#2, D2, D#2, E2) so GigaStudio stretches the first sample up to cover C#2 and D2, and the second sample down to cover E2 and F2. GigaStudio can recognize either a MIDI Note Number or Note Name embedded in the filename; in this case, make sure “Guess from filename (e.g., C#4)” is checked because that’s how the samples are named in this format. The other parameters aren’t important for now.



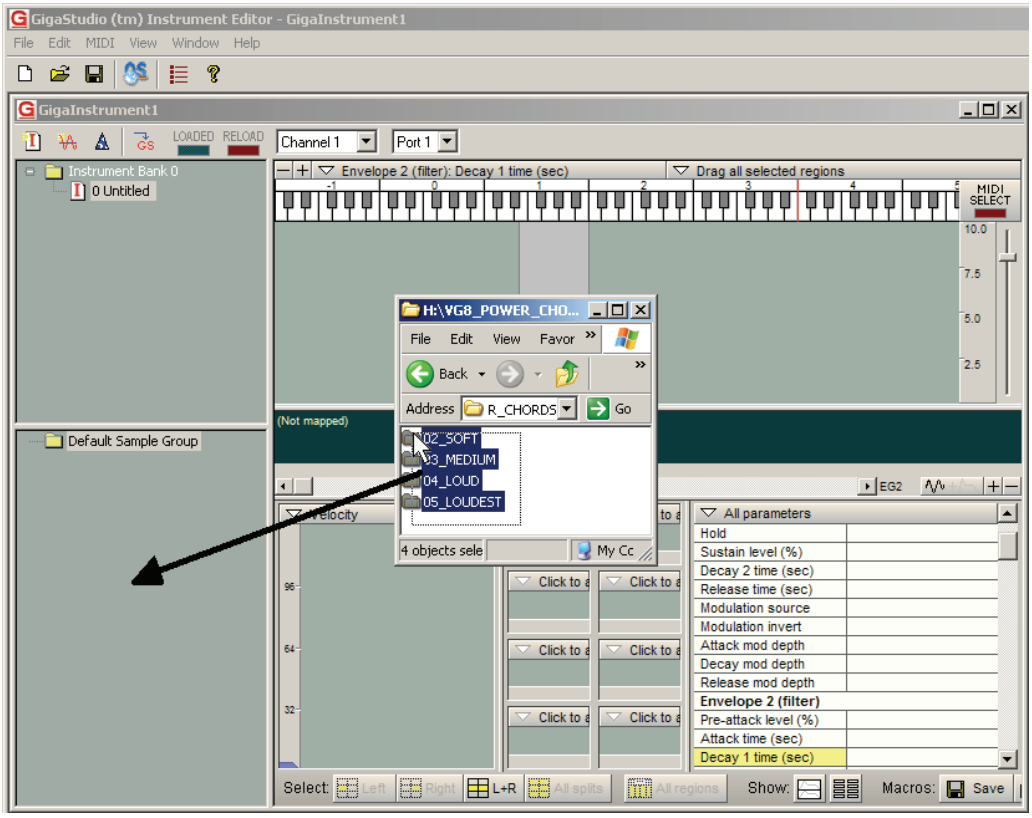
6. Now let's start creating our instrument by going *File* > *New*.



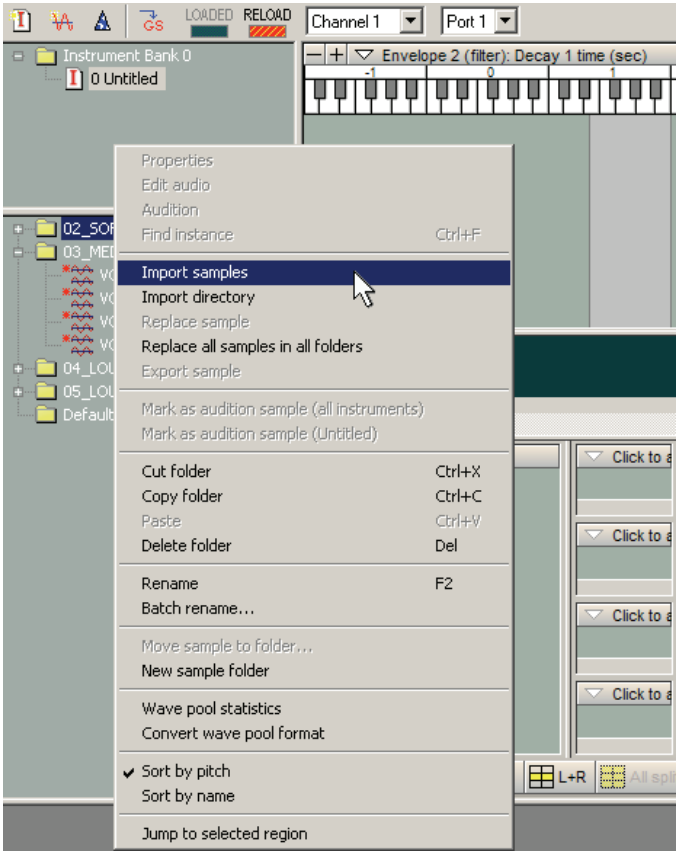
7. An impressive-looking screen appears, which is where the samples will be mapped and edited.

8. Locate the folder "VG8_POWER_CHORDS" provided on the distribution DVD-ROM (if necessary, use the Windows Search function by going *Start* > *Search* > *Files and Folders*), copy it to your

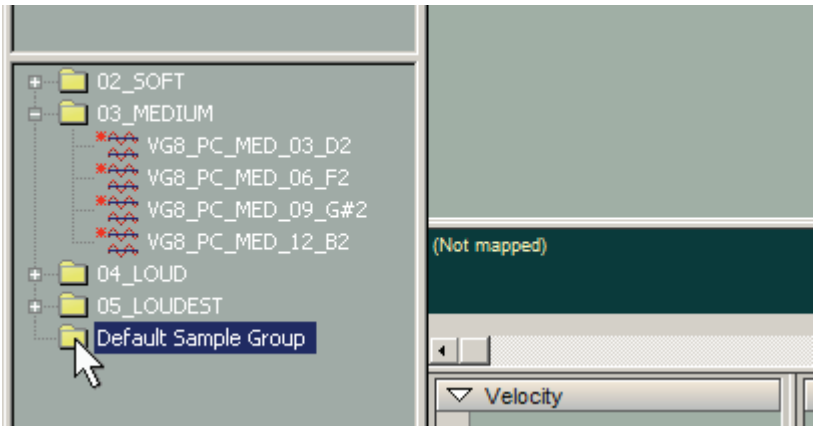
Desktop, then open it. You should see four folders named 02_SOFT, 03_MEDIUM, 04_LOUD, 05_LOUDEST.



9. Draw a marquee around the four folders, then drag them into the Samples Window.



► *Although drag and drop is convenient, you can also right-click in the Samples Window to bring up a sample management menu: Import, export, copy, delete, and sort samples, as well as many other functions.*

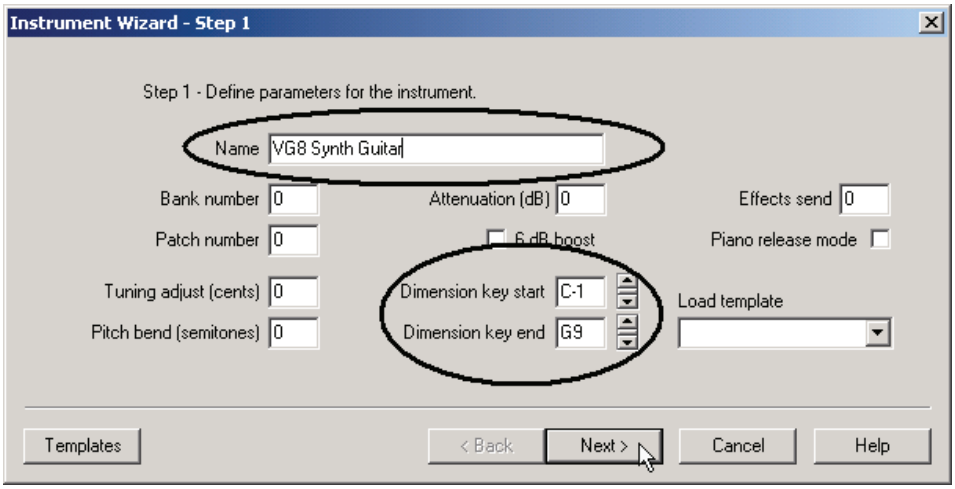


10. All four folders are now in the Samples Window. At this point, the Default Sample Group folder isn't necessary, so click on it and hit the computer's Delete key. If you're asked whether you're sure you want to delete it, click on "Yes."

MEET THE WIZARD

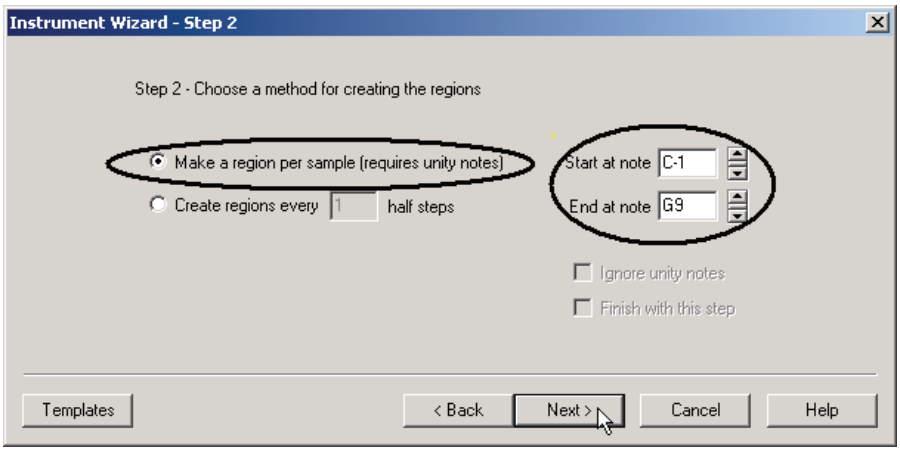
The Wizard is the quickest way to build up many types of instruments. What you're about to do for the next couple of minutes would take much longer if done manually, without the Wizard.

1. Click on the Instrument Wizard icon.

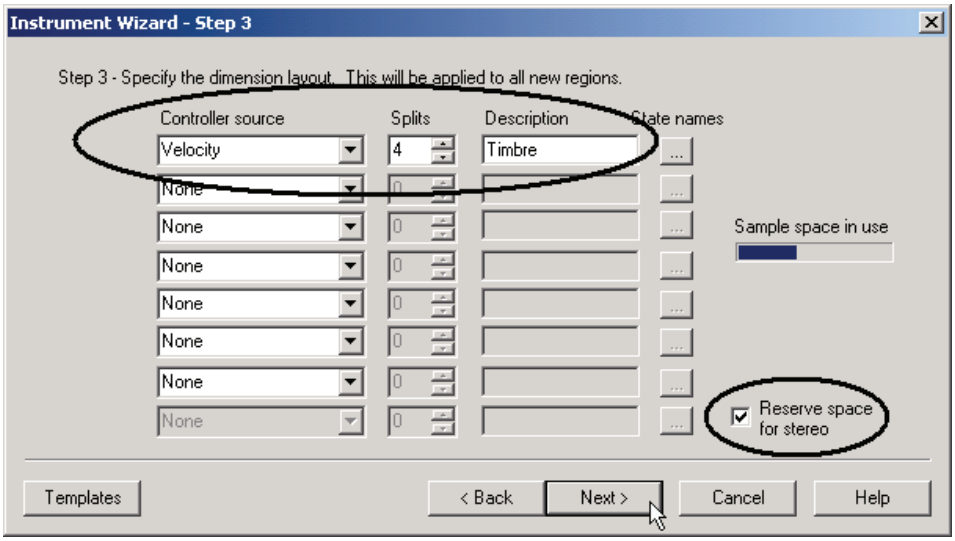


2. Using the Wizard involves following steps in order. In this first one, give the Instrument a name. Then set the Dimension Key Start to C-1 (type it in, use the up and down arrows, or click and drag on the "spinner" control between the two arrows) and the Dimension Key End to G9. Actually these

values aren't critical, but we might as well cover the maximum possible range for now. Click on Next when you're ready for the next step.

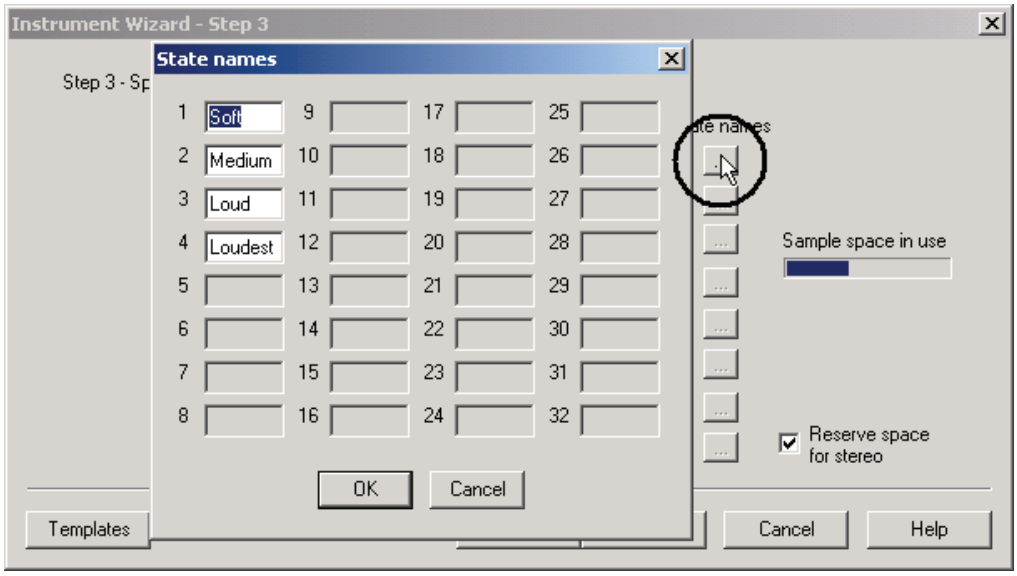


3. Click on "Make a Region per Sample (Requires Unity Notes)." This tells the Instrument Editor that you want to assign each sample to the keyboard and create a region for it. The other option, "Create Region Every "x" Half Steps" creates regions, each of which contains a uniform number of half steps. This would be a better choice if, for example, you had an instrument that was sampled every half step, as each region could be exactly one half step. For "Start at Note" and "End at Note," enter C-2 and G8 respectively (same values as in Step 1). When you're done, click "Next."

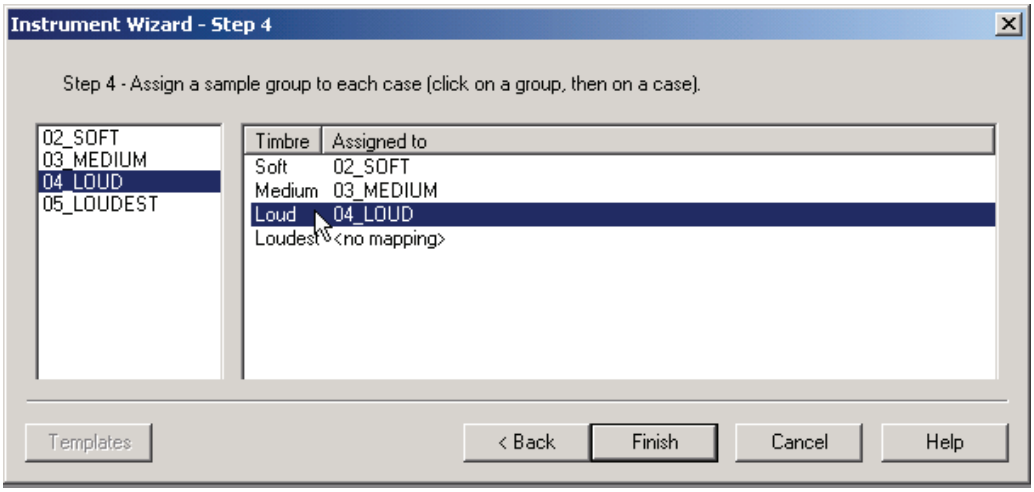


4. Dimensions are an element that, well, take GigaStudio to another dimension. They provide exceptional control over expressiveness; it's worth spending some quality time with the manual, and analyzing well-programmed Instruments, to learn fully how these work. For this Quick Start we'll set up a very simple dimension, where each note's velocity range is split into four regions. The lowest velocity range will trigger the softest sample, the next higher velocity range will trigger the medium sample, the next higher the loud sample, and the highest range, the loudest sample.

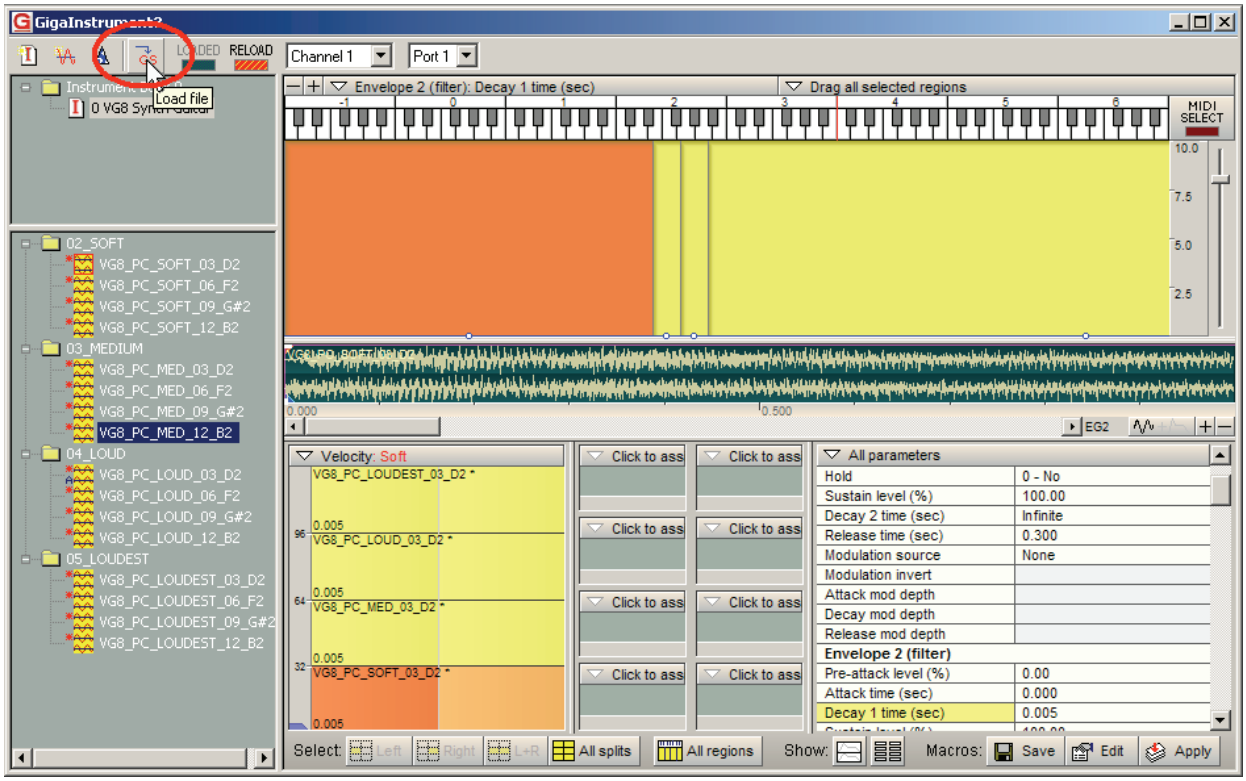
   For "Controller Source," click on the downward pointing arrow in this field and select Velocity. For Splits, type in 4. For description, type in Timbre. Also, because these are stereo samples, it's vital to click on "Reserve Space for Stereo" or the Wizard will not produce the desired results.



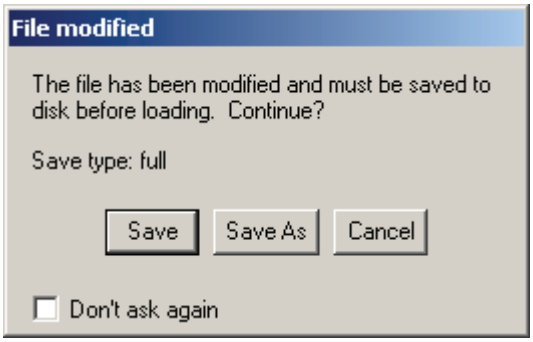
5. Click on "State Names" and enter names for the four dimension states (in this case Soft, Medium, Loud, Loudest). This gives human-friendly names to the Splits in the Instrument Editor, making navigation much easier. When you're done, click on "OK." The program will revert to the main Step 3 screen; click on "Next" to proceed.



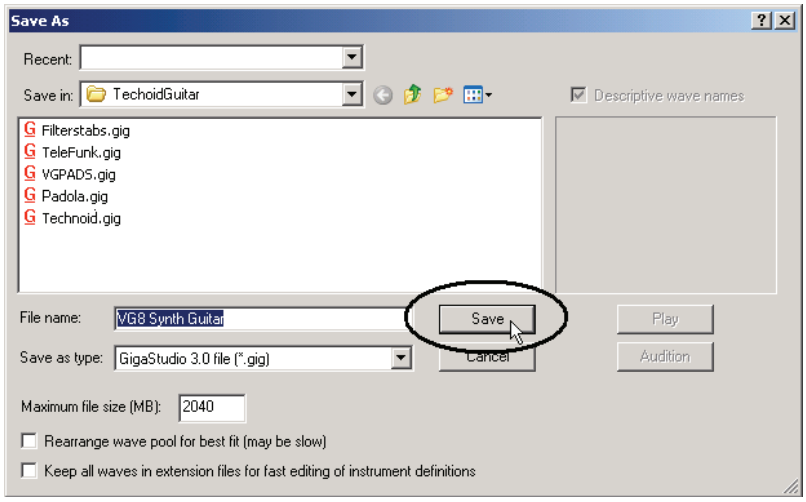
6. Now assign each of the Sample Groups to a Dimension. To do this, click on a Sample Group in the left window, then click on the corresponding Dimension name in the right window. In this example three of the Sample Groups have been assigned, but the Loudest one has not been assigned to its Dimension yet. After assigning all four, the Instrument Editor now knows what samples you're using, where they are to be mapped across the keyboard, and which samples to associate with which Dimension. We're almost there, so click on "Finish."



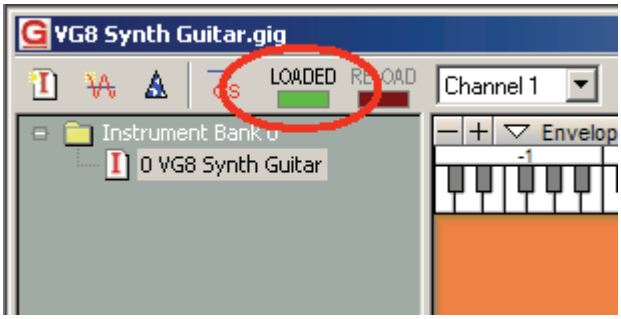
7. The Instrument has now been populated with Samples and Splits. Note that most of the action is happening two octaves below Middle C; the highest and lowest samples have been stretched to cover the entire keyboard. But note you won't hear anything yet if you start playing, because you need to click on the Load File icon—so do it now.



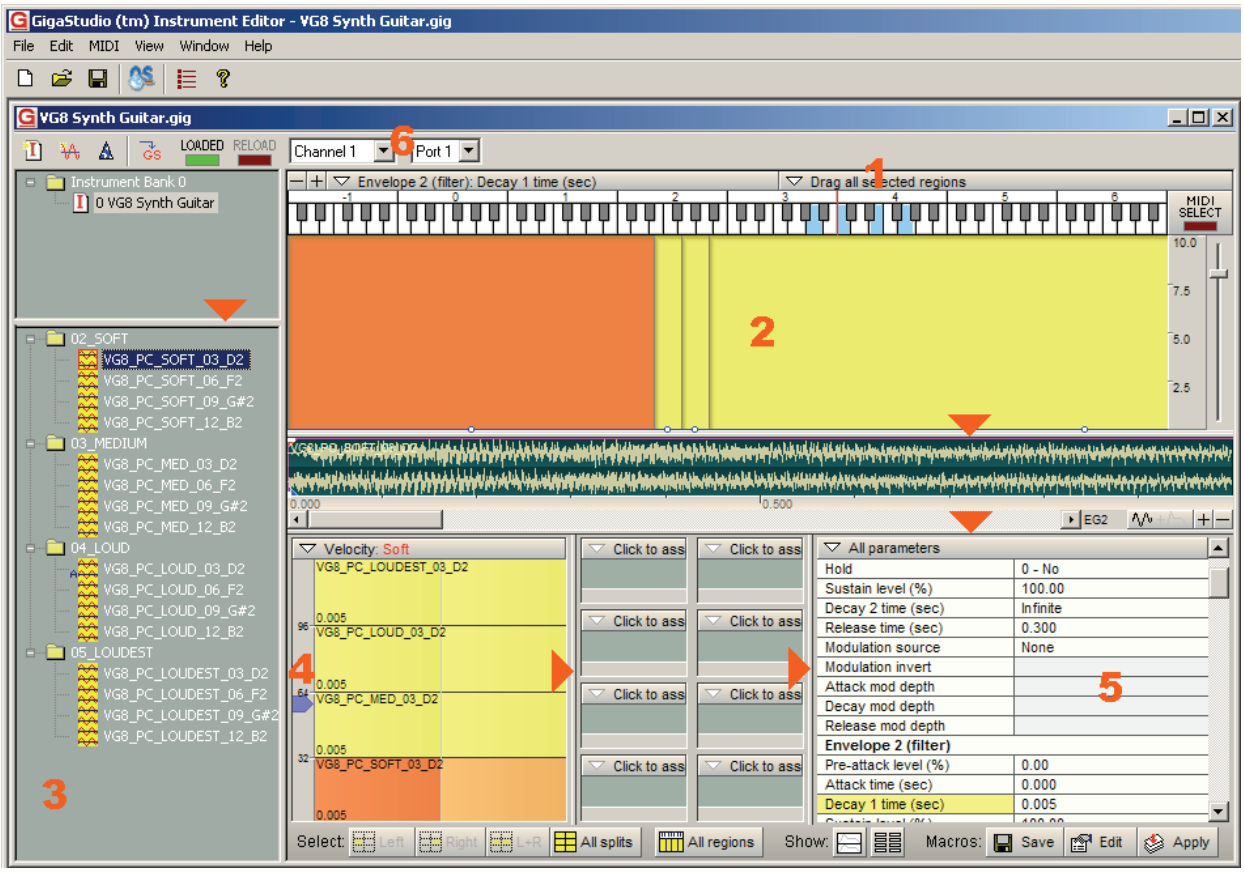
8. A dialog box will now alert you that the file needs to be saved before it can be loaded. Click on "Save As."



9. Another dialog box appears. Navigate to where you want to save the Instrument, name it, and click on "Save."



10. The Instrument is now saved, loaded and ready to play. The Load light glows green to confirm that the Instrument is loaded.



11. Let's check out this screen in more detail.

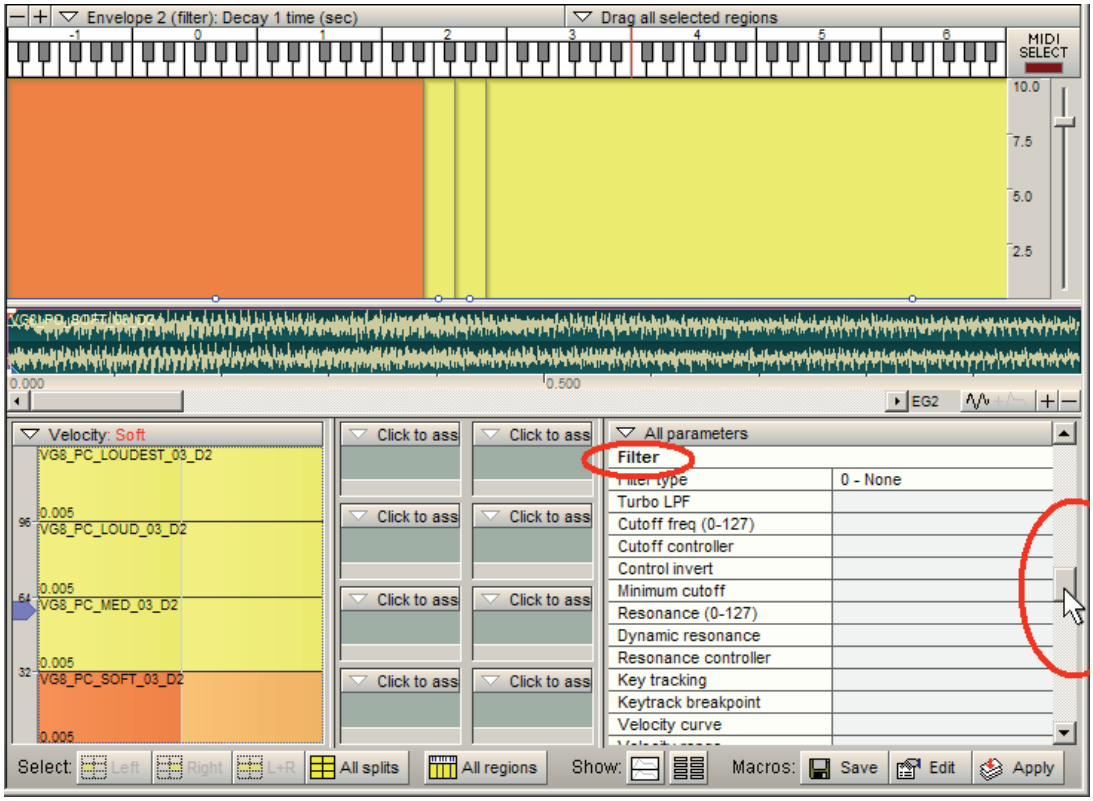
- Play on your keyboard, and you should see notes on the small, virtual keyboard at the top illuminate in blue (1). If not, make sure that the MIDI Channel and Port numbers (6) to the right of the Load indicator match what your keyboard is sending.

- Sample mappings appear in (2). As there are only four samples, the highest and lowest are stretched over a huge range. An Orange sample has the focus, a Yellow sample is selected and will be affected by editing operations, and a White sample is not selected and will not be affected by editing operations. Ctrl-click on multiple samples to select them. Note the "Select" toolbar along the bottom; this provides shortcuts for selecting All Splits, All Regions, etc.

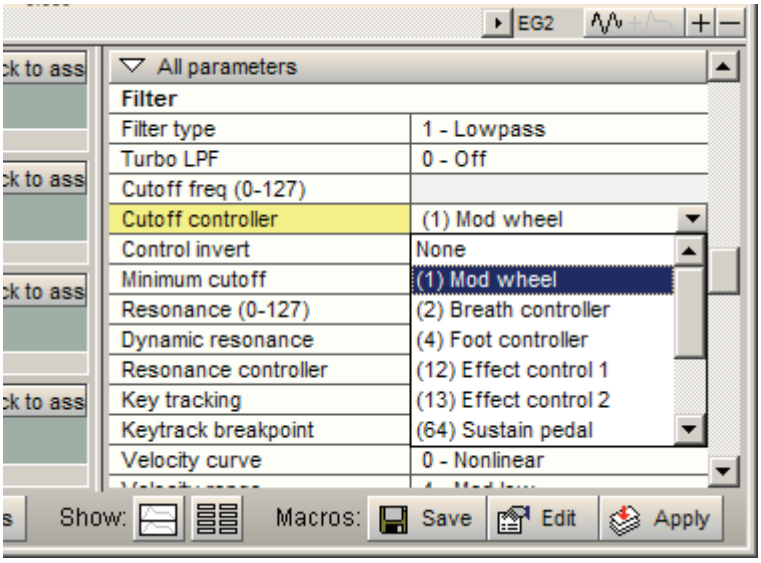
- There are many resize bars (indicated by triangles) on this screen. In (3), the Samples Window has been expanded and the Soft folder opened to show all the samples being used.

- (4) shows a Velocity meter. As you play a key, the little velocity indicator moves up and down. The sample at which it is pointing indicates which sample is being triggred. In this case, the lowest velocity sample is being triggered.

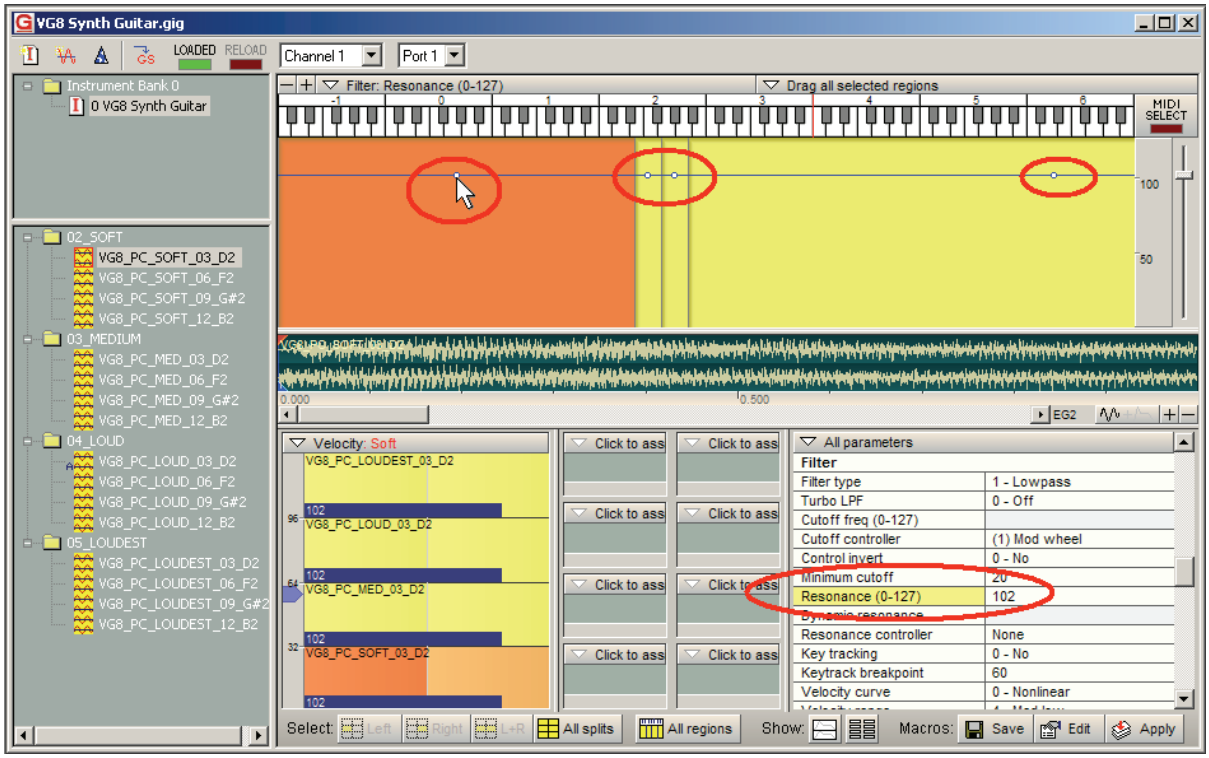
- The listing of editable parameters in (5) hints at just how easy it is to modify the sound, which we'll do in a bit. Also note the waveform display above this list, which shows the sample that has the focus.



12. Let's add a mod wheel-controlled wah effect. To do this, first select all sample ranges by Ctrl-clicking on any sample range that's white. All samples should be either yellow or orange. Then move the scroll bar to the right of the parameter list until you see the Filter parameters.



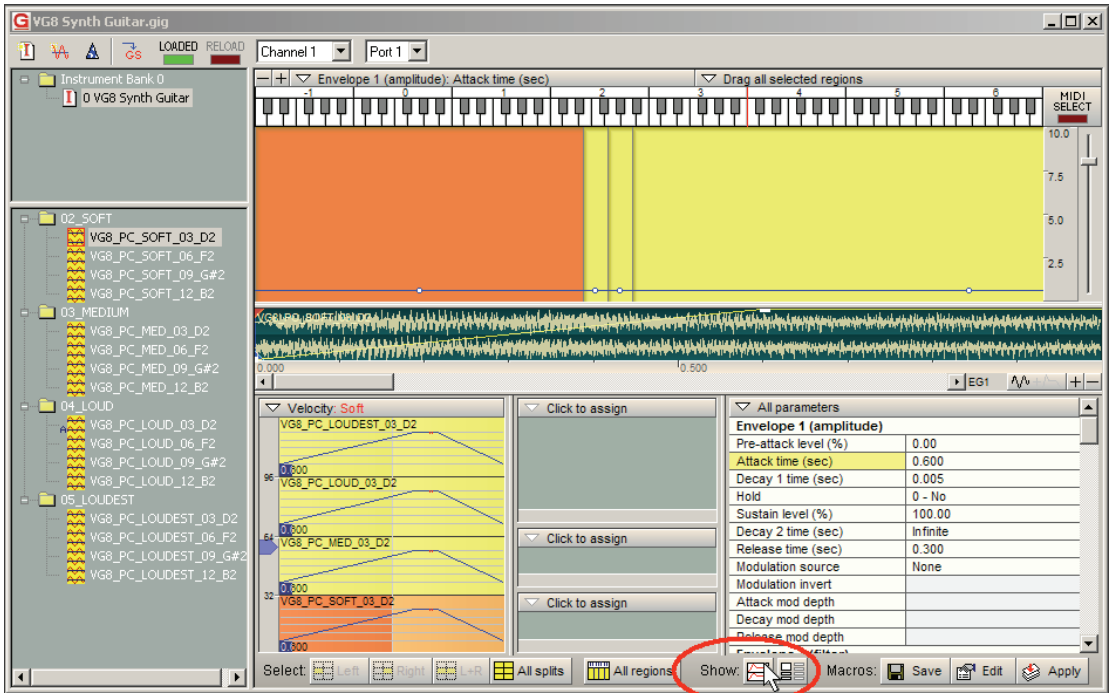
13. Click on "Filter Type," and a triangle for a drop-down menu appears at the right of the field. Select Lowpass filter. Similarly, click on Cutoff Controller and choose Mod Wheel. Move the mod wheel as you play the keys, and you should hear a filter/wa effect.



14. We'll now go for a sharper sound. Click in the resonance field; there are three ways to edit this value.

- Click in the resonance field then drag up to increase the value, down to decrease.
- Enter a number directly in the field.
- Click on one of the "edit knobs" (circled for clarity) in the line that traverses the samples, and drag up or down to change the value. This affects all selected samples. You can use this knob to change parameters of individual samples as well, assuming only that sample is selected.

15. Set a high value, like 110, then move the mod wheel as you play. The sound will be much sharper and more resonant.



16. Now let's have the sound fade in. Scroll to the top of the Parameter List until you see Envelope 1 (amplitude). Click on "Attack time (sec)" and adjust the value using one of the three methods described above to around 5.00. As you play notes, they'll fade in. Note the graphic feedback: Not only can you see the value in the Parameter List, but if you click the Show button (circled), the waveform now shows an envelope (you may need to zoom out to see it; use the + and - buttons just above the upper right of the Parameter List). Furthermore, the Dimensions display in the lower left also shows an envelope.

This just gives you the merest hint of what's possible with GigaStudio, but that's enough for a Quick Start. Enjoy your new musical instrument, and go through the manual when you get a chance—we've only scratched the surface.