GS3

Contents

GigaStudio QuickStart

GigaStudio is an amazingly advanced sampler that you don't master in a day. But paradoxically, it's also very easy to get up and running...as this QuickStart 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, do 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!*

Before proceeding, refer to the main manual on how to install the application, and make sure you read the ReadMe in the root directory of CD1/DVD1. Return here after installation is complete.

INITIAL SETUP

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

1 Start GigaStudio's Configuration Manager by going ***Start > Programs > TASCAM > GigaStudio Configuration Manager***.

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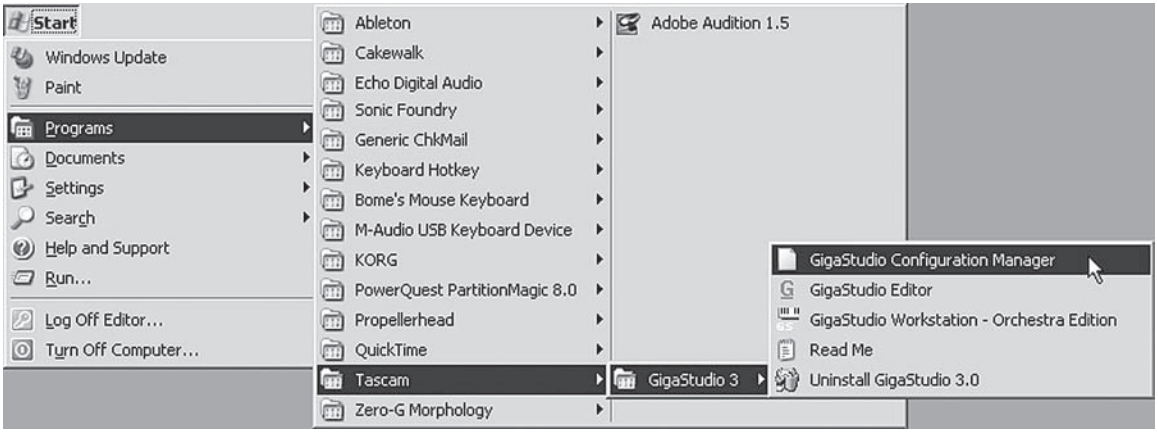
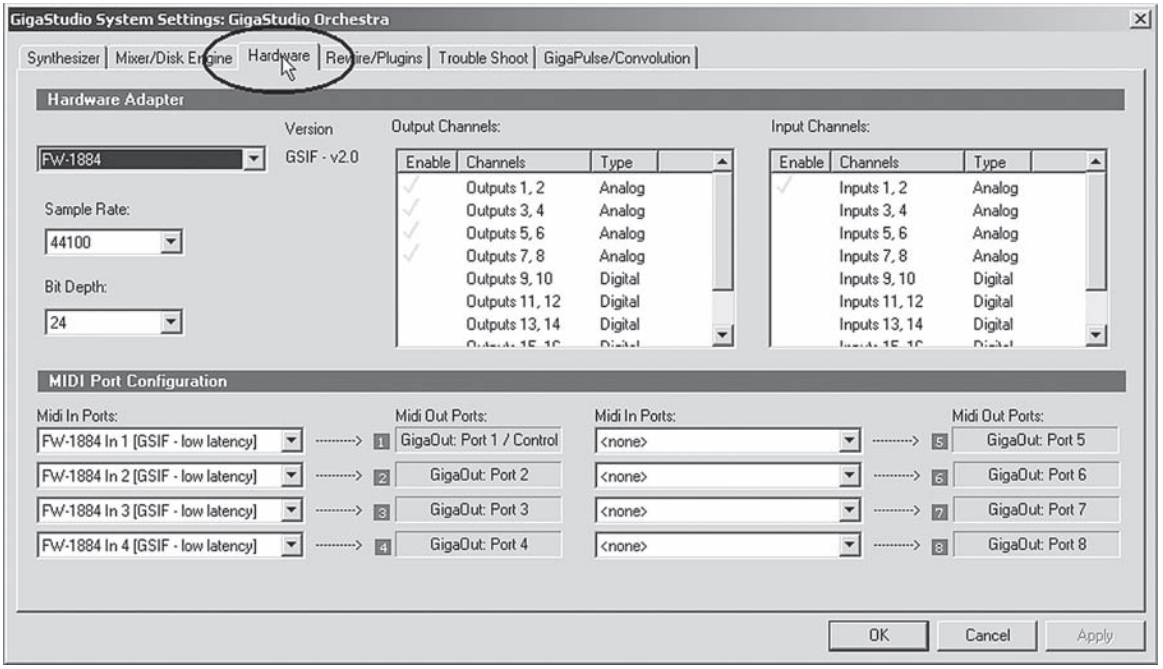


2 You'll now see the Hardware Configuration screen (top of next page). There are several tabs; click on ***Hardware*** (outlined for clarity). For now, we just want to verify that GigaStudio recognizes your audio interface and MIDI input.

3 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. Below the

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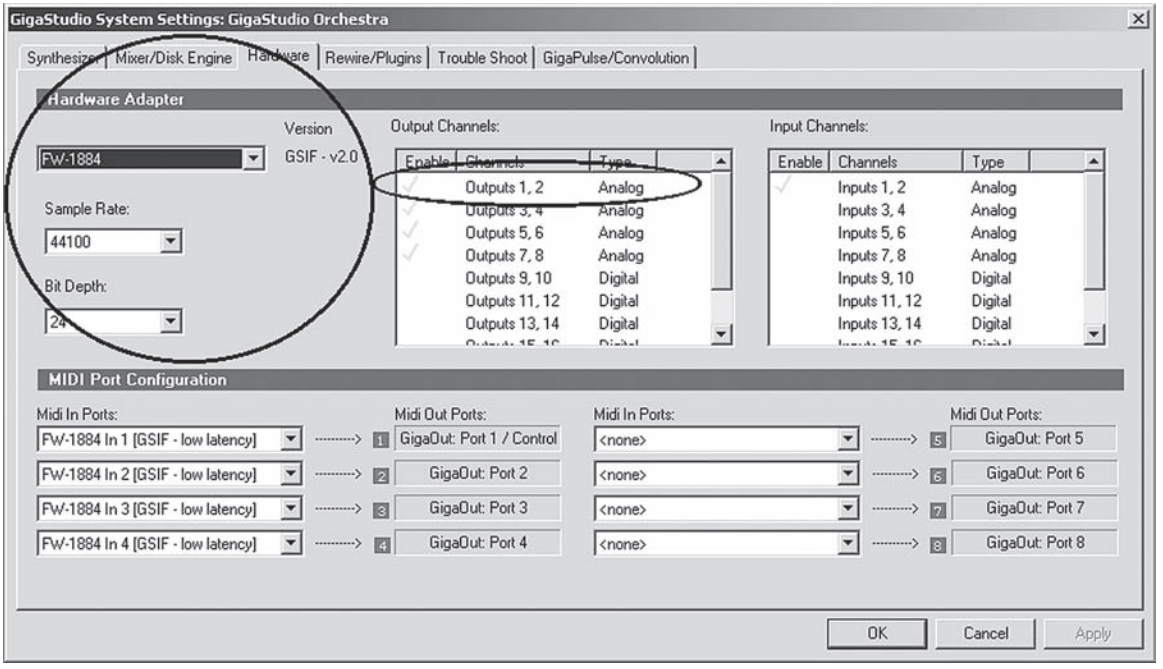

name, you can choose a sample rate and bit depth supported by your interface; click on the small triangle toward the right of these fields, and a drop-down menu will list your options. Also check that at least one output is enabled under ***Output Channels***. You can enable or disable your audio interface outputs by clicking in the ***Output*** field for a particular output channel.

If you don't see that a GSIF driver is available, you have two options: 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 Orchestra 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.

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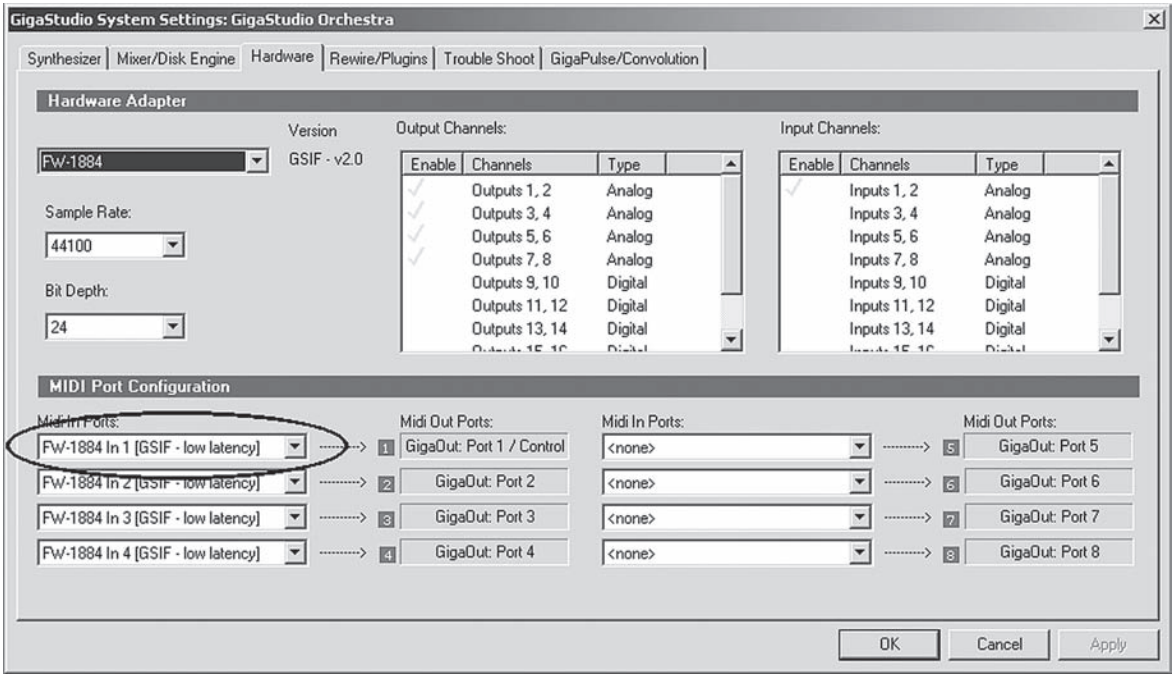
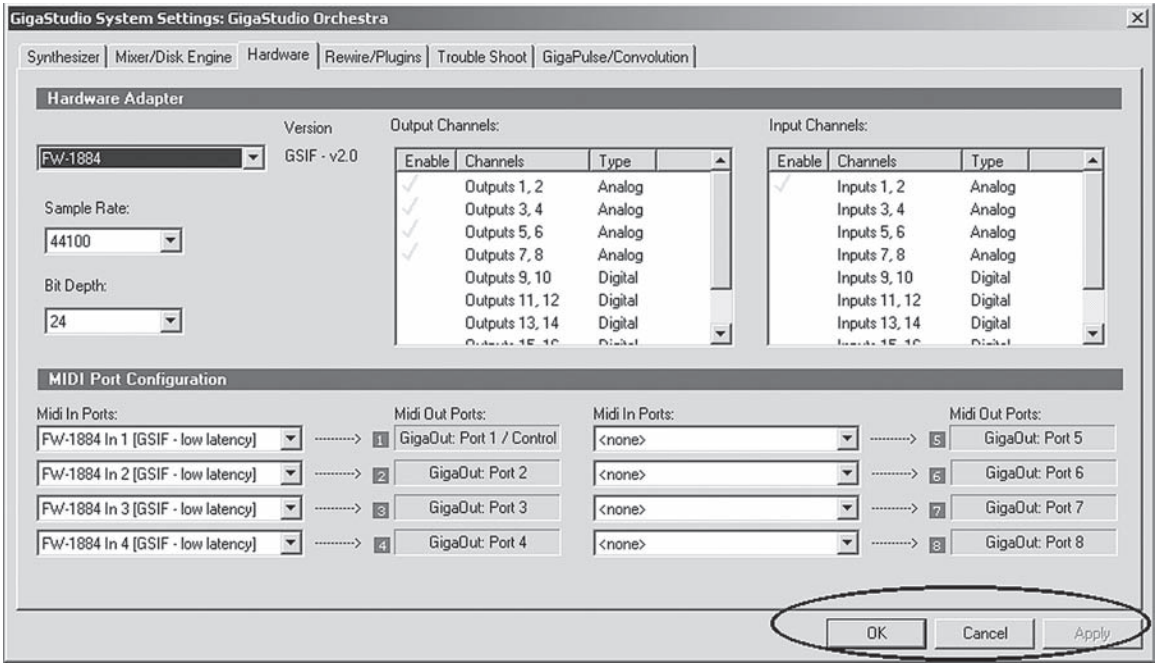


If you don't see a MIDI port, or don't have a MIDI interface, don't panic — you can use GigaStudio's virtual keyboard to trigger notes for now. Still, hook up a MIDI interface to your computer as soon as possible so you can play with a real keyboard and feed in MIDI data from sustain pedals, controllers,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

5 Click on "***Apply***" then on "***OK***." We're done with configuration. Be patient; it might take a few seconds before this window disappears.



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Note: This Quick Start Guide shows screenshots taken from GS3 Orchestra. However, GS3 Ensemble and GS3 Solo are primarily the same. For example, in these screenshots, Ensemble and Solo have fewer MIDI ports available than you see here in Orchestra.

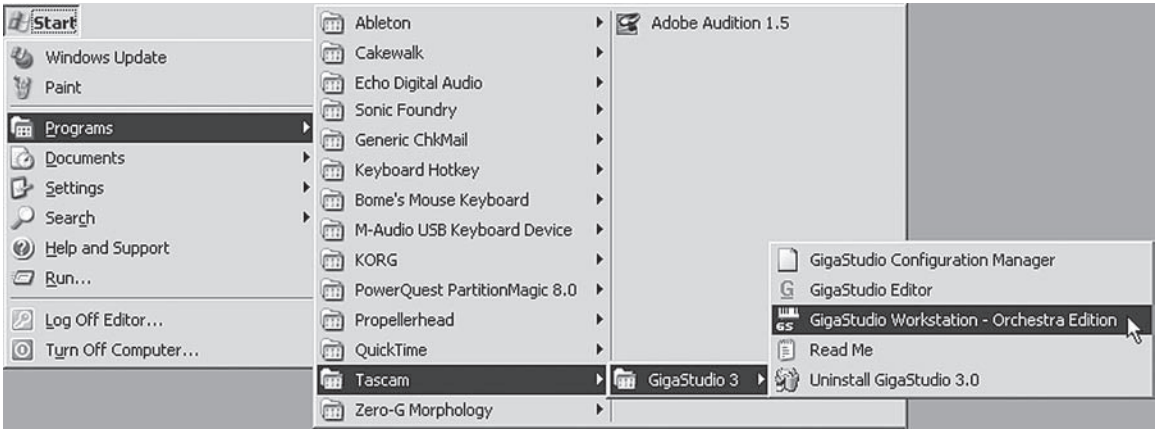
Also, all screenshots in this guide are subject to change.

GETTING TO KNOW GIGA

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

1 Start GigaStudio by going ***Start > Programs > TASCAM > GigaStudio3 > GigaStudio Workstation*** [name of your edition — Orchestra, Ensemble, or Solo]

1



2 The default opening screen is shown at the top of the next page. 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 each section of this screen: The MIDI Mixer, QuickSound Loader, and Virtual Keyboard.

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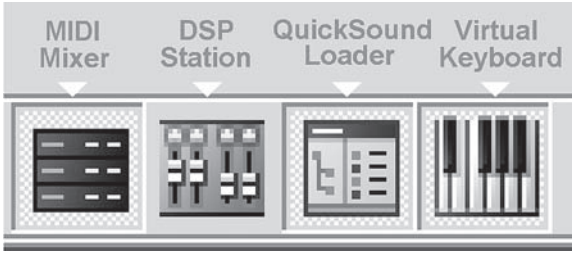

If you don't see all three views, one or more may be hidden. You can show/hide them with the toolbar buttons at the top of the main screen.

3 A file menu (File, View, Capture, Help) is at the very top. 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 for viewing. (With GigaStudio Ensemble there are four tabs and for the Solo version, two tabs.) For the QuickStart, we'll stick with G3Port 1, so make sure that tab is selected before moving on.

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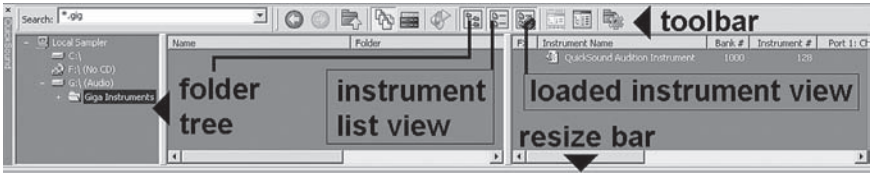
If you do the math for the Orchestral version, eight output ports times 16 instruments means you can load up to 128 instruments! Of course,



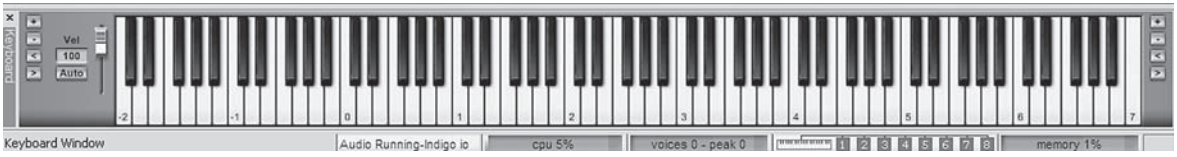
your computer may run out of horsepower before that happens, but it's nice to know the potential is there.

4

4 The ***QuickSound*** loader is a fast way to locate Instruments (thanks to a search function), as well as load and audition them. There are three main views:

- The ***Folder Tree*** 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*** view shows which instruments were found with GigaStudio's search function. For example, if you decide to look for files with the name "Piano" and do a search, all instruments containing "Piano" are listed here. Or, you could search for all GigaStudio Instrument files with a .gig suffix.
- The ***Loaded Instrument*** view shows information on instruments that are currently loaded into GigaStudio.

Toward the top, a Toolbar accesses various QuickSound functions. For example, note the lines above going from the Folder Tree, Instrument List view, and Loaded Instrument. These indicate show/hide icons for each of these views. There's also a resize bar so you can change the size of the QuickSound window.



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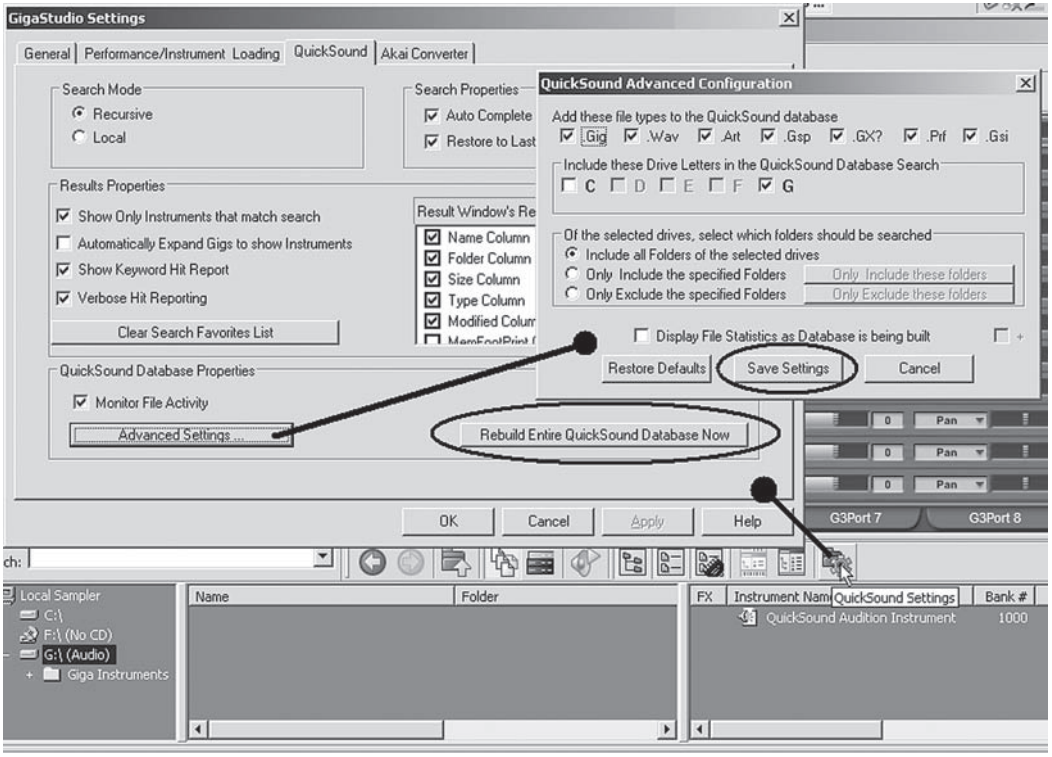
5 The ***Virtual Keyboard*** lets you trigger notes for the various instruments, without the need for an external MIDI keyboard. The four buttons at the left and right sides are (from top to bottom) zoom in, zoom out, scroll keyboard right, and scroll keyboard left. The slider toward the left sets a default velocity value for when you click on a key. Various status indicators run along the bottom.

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, and let's use the Search function. First, we'll set up some search criteria.

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



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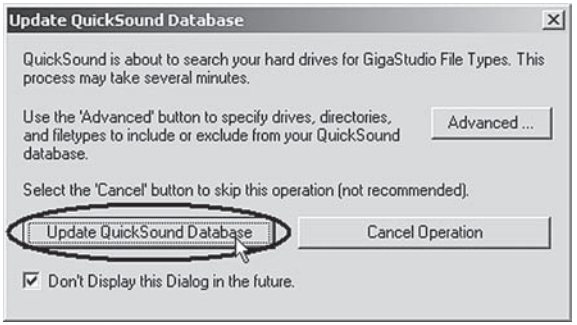
2 "***Recursive***" should already be checked under ***Search*** mode so that GigaStudio will search in folders within folders. If you select "***Local***," the search will take place only in the folder (directory) you specified in the Folder Tree. Under ***Results Properties***, check "***Show Only Instruments that Match Search***" to keep things simple for now.

3 Click on the "***Advanced Settings***" button to open another window where you can select particular drives to include or exclude, as well as what ***File Types*** you want to include in the



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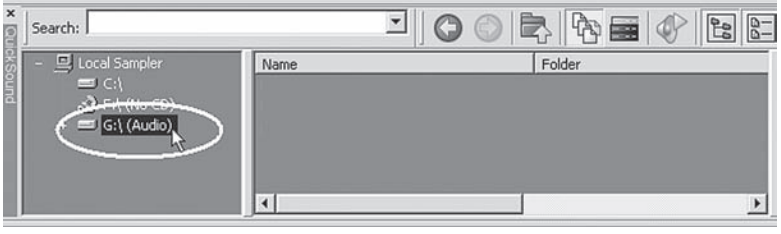
QuickSound database. Check them all for now, then click on "***Save Settings***."

4 Click on "***Rebuild Entire QuickSound Database Now***."

5 When the ***Update QuickSound Database*** window appears, click on the "***Update QuickSound Database***" button. GigaStudio flies through your hard drives, looking for files with the extensions you specified. This can take a few seconds to several minutes, depending on how many files you have stored on your drives, the size of your drives, and how many drives you're searching. When this flurry of activity is done, click "***OK***" on the Settings window.



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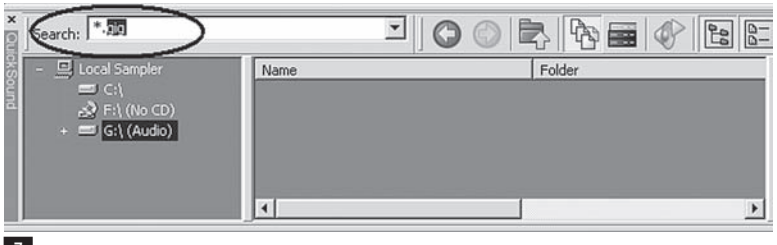
6 To select the drive or folder where you want to search, click on it in the ***Folder Tree*** view.



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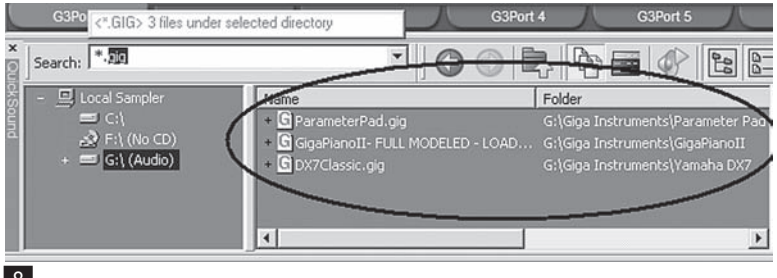
7 Type the search string in the ***Search*** field. Here we've typed *.gig to find all GigaStudio instruments. Note that the * symbol is Windows shorthand for "any text string," so this would find *anything* with a .gig suffix. You can also type "filters" for other file types like GigaStudio Performance (.gsp), WAV files (.wav), names of particular instruments, etc., or use the pull-down menu to choose a particular filter.



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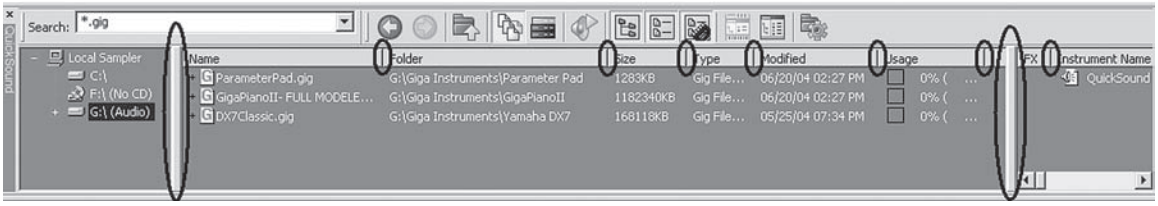
8 Almost instantly, files that meet the your search criteria show up in the ***Instrument List*** view. You may also see a small label appear above the ***Folder Tree*** that says how many files were found.

Searching and Loading ▸ page 11

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 move the vertical splitter bar between the Instrument List display and Loaded Instrument view to show more of one window or the other, as well as move the vertical splitter bars between the various headings in the Instrument List view. 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.

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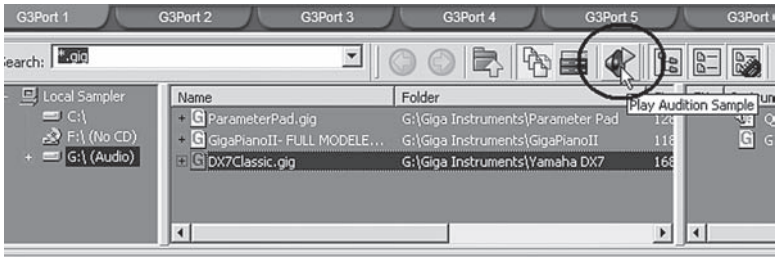
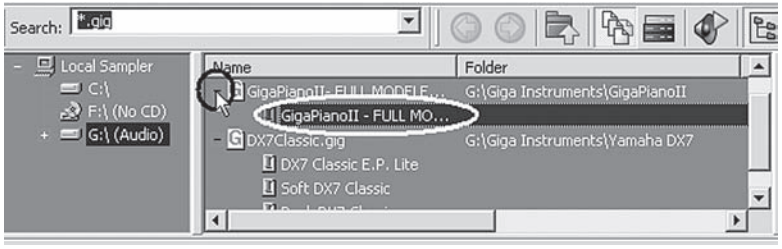
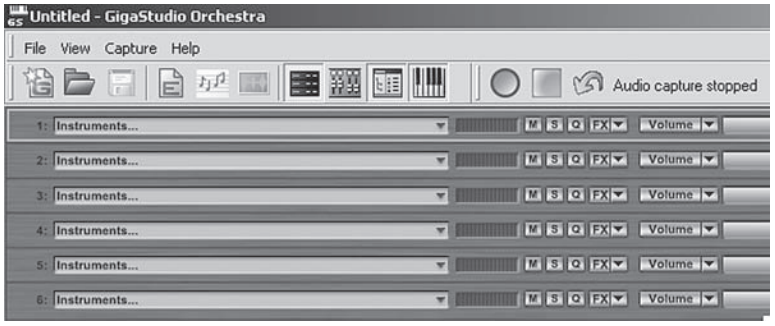




2

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 GigaPiano II has one patch, whereas the DX7 Classic Instrument has three variations: DX7 Classic E.P. Lite, Soft DX7 Classic, and (just barely visible) Rock DX7 Classic.



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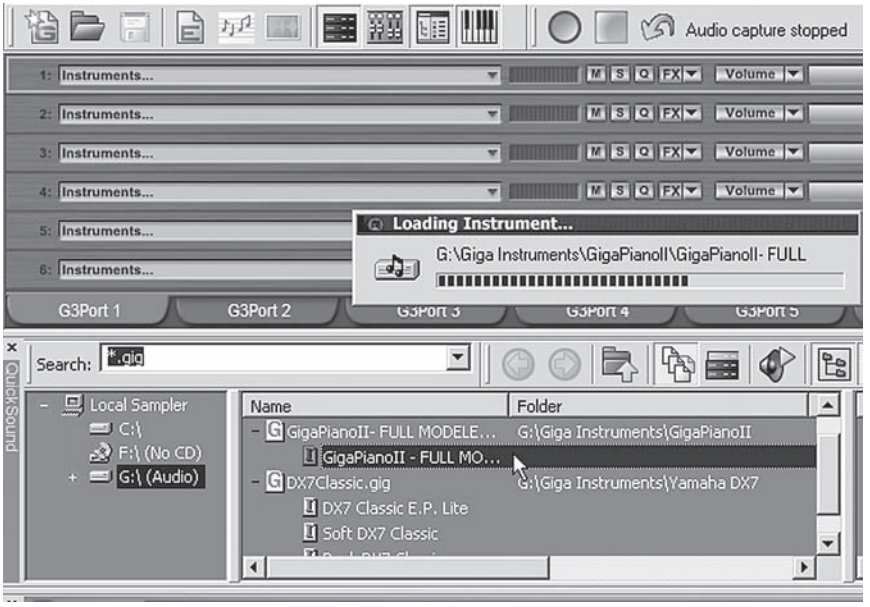
3 Now decide which slot should hold the instrument. Click on the slot number to the left of the slot. This outlines the slot in blue to show it has the focus; therefore, any instrument you load will go into that slot. (Actually you can click anywhere in the slot to select it, but clicking on the number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

4 Double-click on the patch for the instrument you want to load. (You can choose a piano to be in sync with the QuickStart, but that's not crucial. Just avoid an instrument

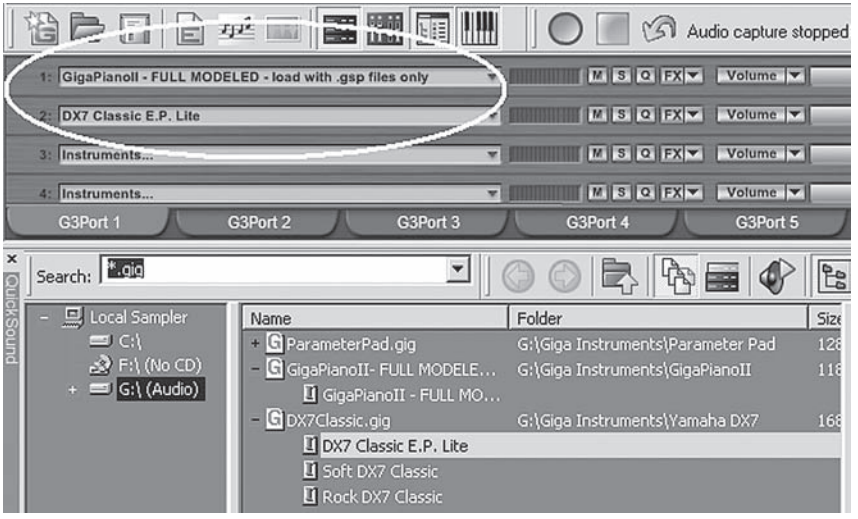
like organ that has a continuous tone, as the effects of the GigaPulse, which we'll cover later, won't be as dramatic or obvious.) GigaStudio starts pulling data off your hard drive as fast as it can, and stuffs it into the selected slot. A bar shows loading progress; loading may take a few seconds with large files. Note that you can also drag and drop GigaStudio Instruments and Performances into a slot.



4 5

5 Now select slot 2 and load another instrument. When loading is done, each slot shows the name of the loaded instrument.

6 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. The virtual keyboard will play whichever slot is selected — no channel setting required.



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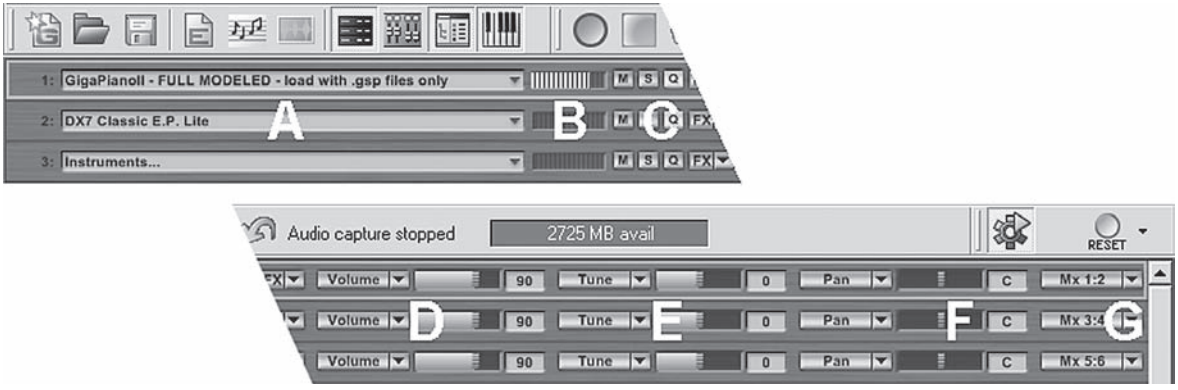
EDITING INSTRUMENTS

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 turns off 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 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.

Select Controller	42 LSB for Values 10	85 Undefined
0 Bank Select	43 LSB for Values 11	86 Undefined
1 Mod Wheel	44 LSB for Values 12	87 Undefined
2 Breath Controller	45 LSB for Values 13	88 Undefined
3 Undefined	46 LSB for Values 14	89 Undefined
4 Foot Controller	47 LSB for Values 15	90 Undefined
5 Portamento time	48 LSB for Values 16	91 Effects 1 Depth
6 Data Entry MSB	49 LSB for Values 17	92 Effects 2 Depth
✔ 7 Channel Volume	50 LSB for Values 18	93 Effects 3 Depth
8 Balance	51 LSB for Values 19	94 Effects 4 Depth
9 Undefined	52 LSB for Values 20	95 Effects 5 Depth
10 Pan	53 LSB for Values 21	96 Data Increment
11 Expression Control	54 LSB for Values 22	97 Data Decrement
12 Effect Control 1	55 LSB for Values 23	98 Non Registered Parameter LSB
13 Effect Control 2	56 LSB for Values 24	99 Non Registered Parameter MSB
14 Undefined	57 LSB for Values 25	100 Registered Parameter Number LSB
15 Undefined	58 LSB for Values 26	101 Registered Parameter Number MSB
16 GPC 1	59 LSB for Values 27	102 Undefined
17 GPC 2	60 LSB for Values 28	103 Undefined
18 GPC 3	61 LSB for Values 29	104 Undefined
19 GPC 4	62 LSB for Values 30	105 Undefined
20 Undefined	63 LSB for Values 31	106 Undefined
21 Undefined	64 Sustain Pedal	107 Undefined
22 Undefined	65 Partamento On/Off	108 Undefined
23 Undefined	66 Sostenuto	109 Undefined
24 Undefined	67 SoftPedal	110 Undefined
25 Undefined	68 Legato Foot Switch	111 Undefined
26 Undefined	69 Hold 2	112 Undefined
27 Undefined	70 Sound Controller 1	113 Undefined
28 Undefined	71 Sound Controller 2	114 Undefined
29 Undefined	72 Sound Controller 3	115 Undefined
30 Undefined	73 Sound Controller 4	116 Undefined
31 Undefined	74 Sound Controller 5	117 Undefined
32 LSB for Values 0	75 Sound Controller 6	118 Undefined
33 LSB for Values 1	76 Sound Controller 7	119 Undefined
34 LSB for Values 2	77 Sound Controller 8	Program Change
35 LSB for Values 3	78 Sound Controller 9	Fine Tune (Cents)
36 LSB for Values 4	79 Sound Controller 10	Coarse Tune (Semitones)
37 LSB for Values 5	80 GPC 5	
38 LSB for Values 6	81 GPC 6	
39 LSB for Values 7	82 GPC 7	
40 LSB for Values 8	83 GPC 8	
41 LSB for Values 9	84 Portamento Control	

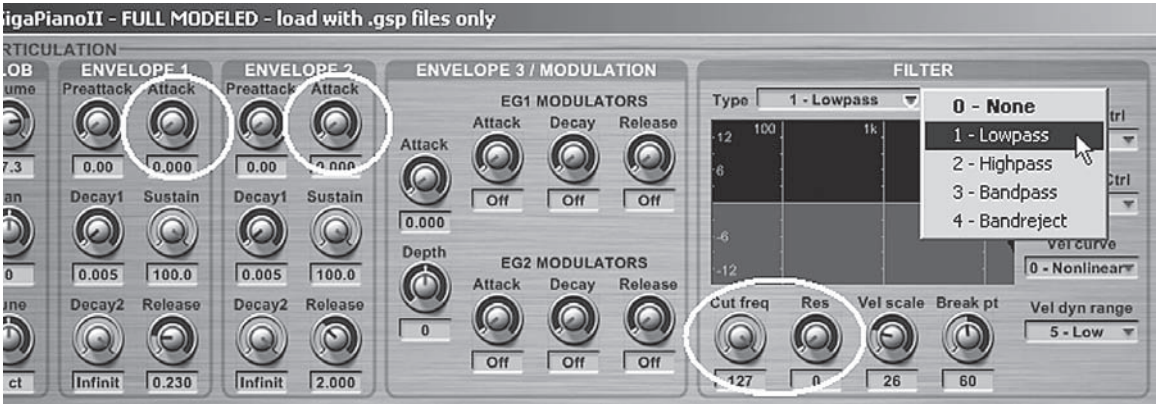
MEET QUICKEDIT

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

Articulation contains 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. Because this window takes up a lot of space, the circled show/hide buttons let you display only those areas of interest.

Clicking anywhere along the line pointed to by the show/hide button does the same thing as clicking on the show/hide button.

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. Envelope 1 controls the amplitude, Envelope 2 controls the filter. If you're clueless about



synthesizers, select Lowpass as the Filter Type, and vary the filter's Cut(off) Freq(uency) and Res(onance) parameters as you play. You'll hear the timbre change. Now add some Attack time with Envelope 1; the piano note swell up to volume rather than have a percussive attack, and you'll probably see the attack curve superimposed on the waveform. Similarly, Envelope 2's Attack control changes the filter's cutoff frequency.

And how about a piano with vibrato? Sure, why not — go to the LFO section and increase the Pitch Int Depth parameter value to about 40.

This gives you only the slightest idea of the power of QuickEdit. While it 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.

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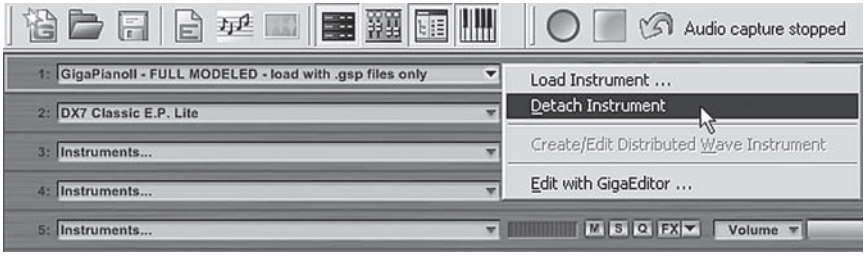

1 We'll start by "detaching" both of the Instruments we've loaded so far. Click on the triangle to the right of the name field, and select "Detach Instrument." Detaching still keeps the Instrument loaded in memory, which is useful if you're going back and forth between different Instruments and don't 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.

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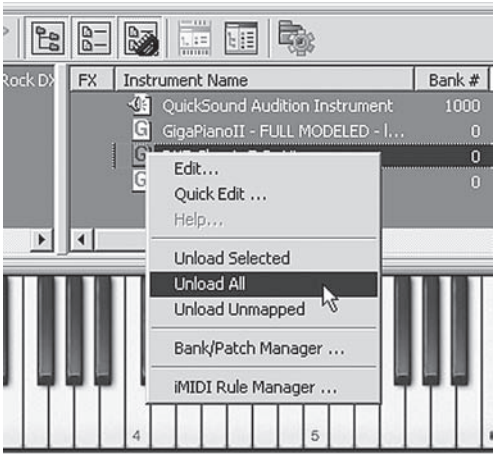
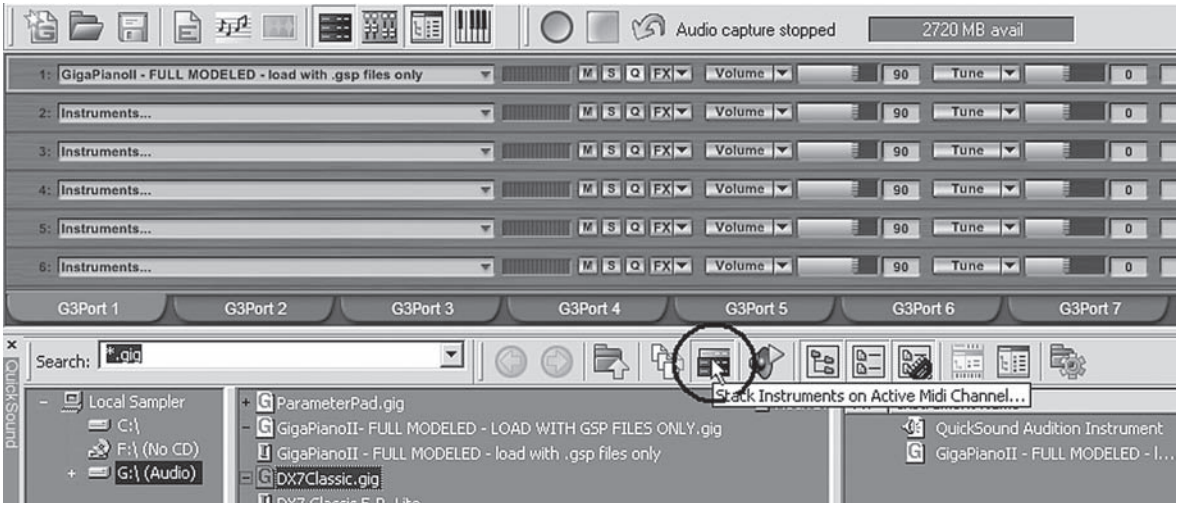


2 Right-click on an Instrument in the Loaded Instrument View and choose to unload all loaded instruments, just the selected ones, or just the ones that are unmapped. To start off with a clean slate, select "Unload All."

3

3 Click on Slot 1, and assign an instrument to it as we did

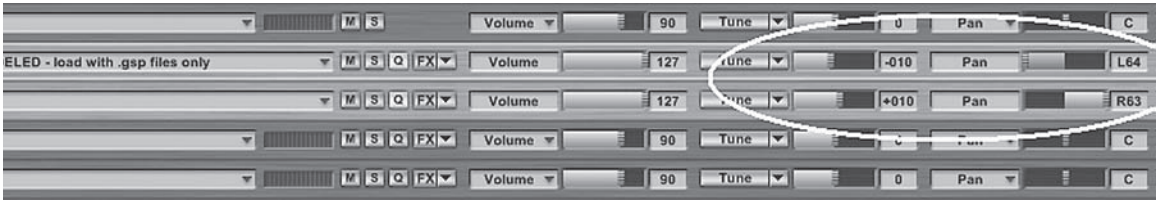


before — by double-clicking on a patch in the Instrument List view. But before assigning another patch, click on the "Stack Instruments on Active MIDI Channel" button.

4 With Slot 1 still selected, double-click on the patch in the 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.

4

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.



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

If you're loading a lot of instruments, it's worth checking the memory meter in the lower right to make sure you're not running short on available memory.

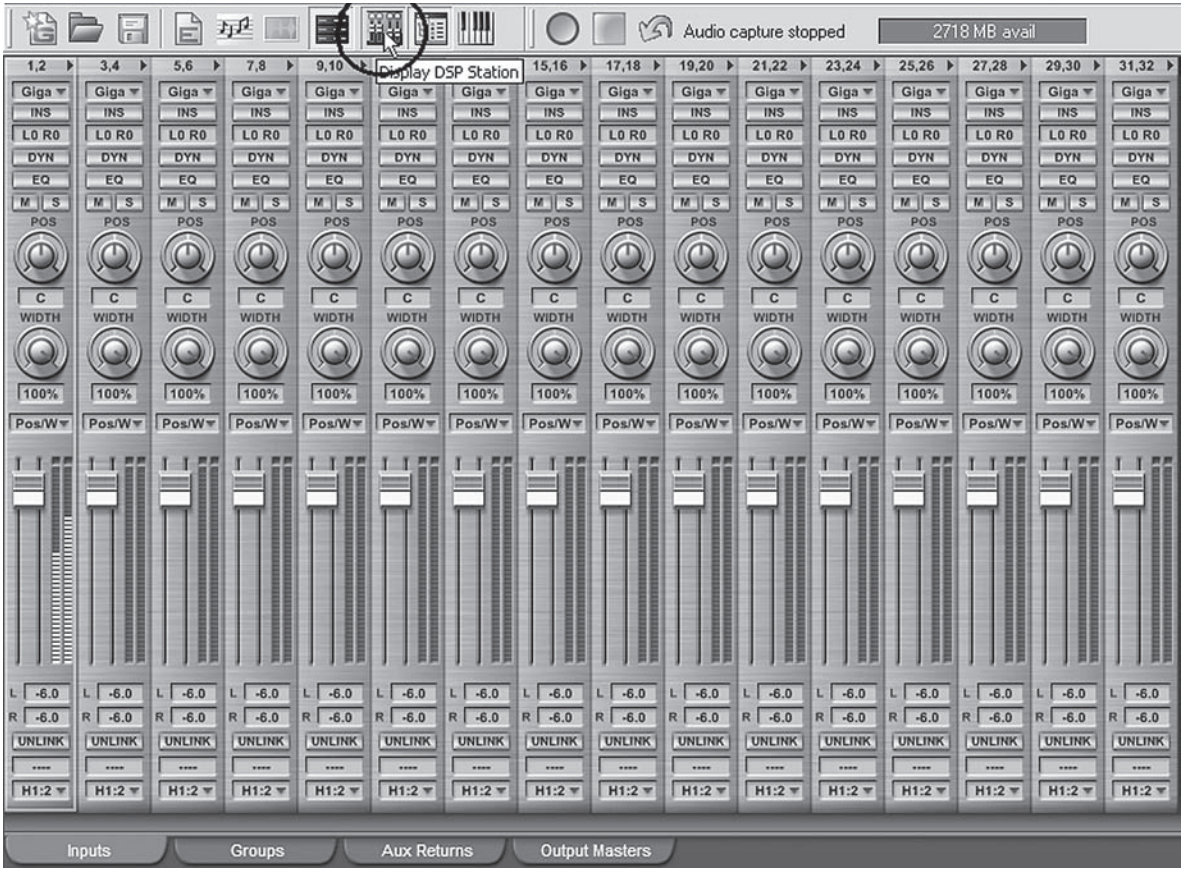
THE DSP STATION – OVERVIEW

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

You may want to hide the Virtual Keyboard and QuickSound windows so you can 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).

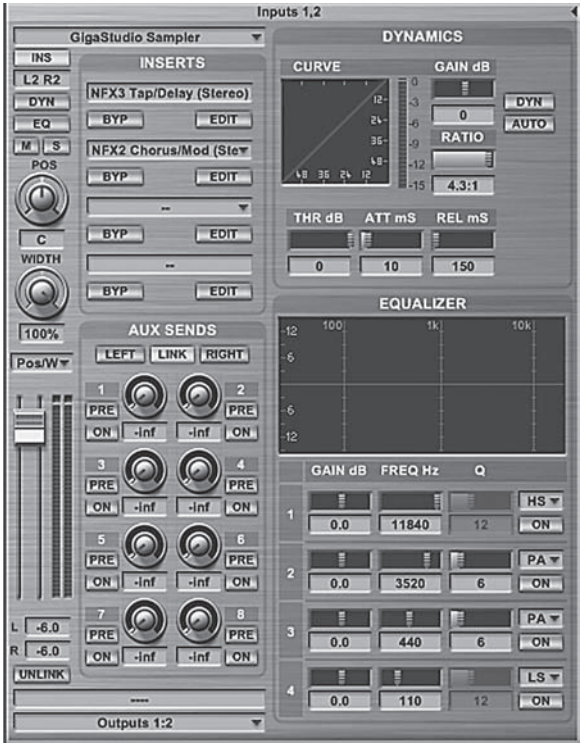
But the real action unfolds when you expand a channel strip by clicking on the triangle to the right of the output number. This presents modules for EQ (four bands with six possible filter types



per band), Dynamics control, Inserts for adding effects included with GigaStudio or VST plug-in, and a set of 8 stereo aux sends.

The shot at right shows two inserted effects: The GigaStudio Tap Delay, followed by the GigaStudio Chorus. 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.

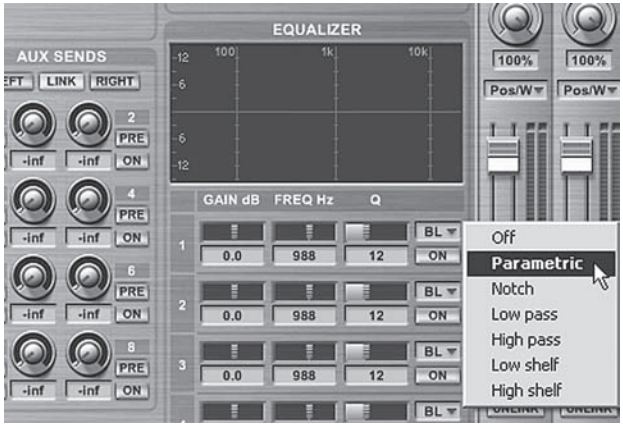


DSP – ADJUSTING EQ AND DYNAMICS

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.

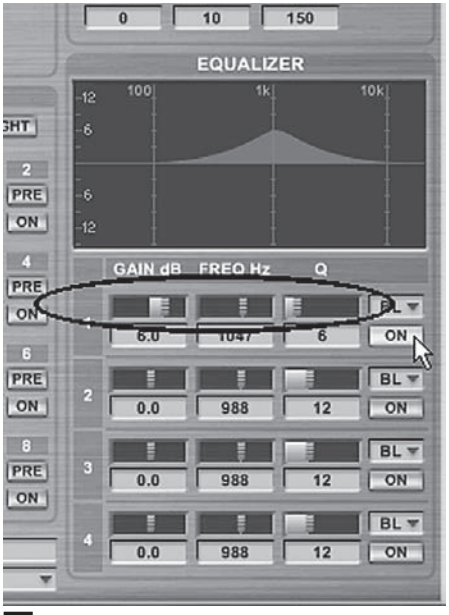
1 There are four stages of EQ; each one is identical. The BL field has a drop-down menu where you can choose the filter type: Parametric, Notch, Low pass, High pass, Low shelf, and High shelf. For now, choose Parametric in Stage 1 (the top filter).

1



♪ *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 (next page). Experiment with the Gain, Freq, and Q controls. Note how Q changes the width of the area being boosted



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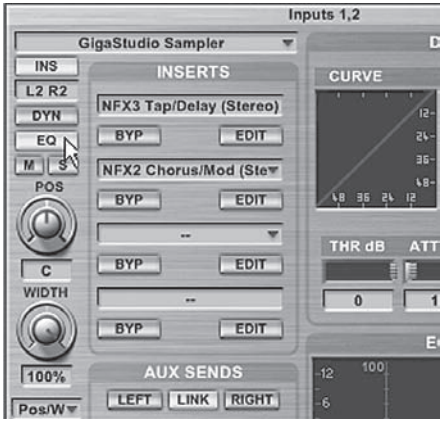
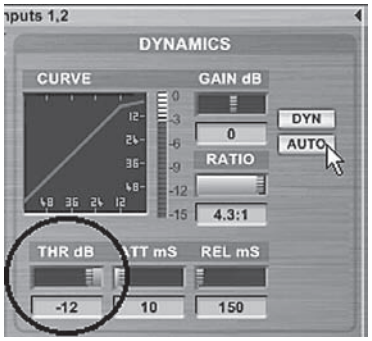


or cut using the ***Gain*** control, while ***Freq*** determines where this cutting or boosting takes place.

3 The reason each stage has an on-off button is because EQ requires computer DSP, so you don't want to enable any more stages of EQ than necessary. Note that 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.



4 5

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

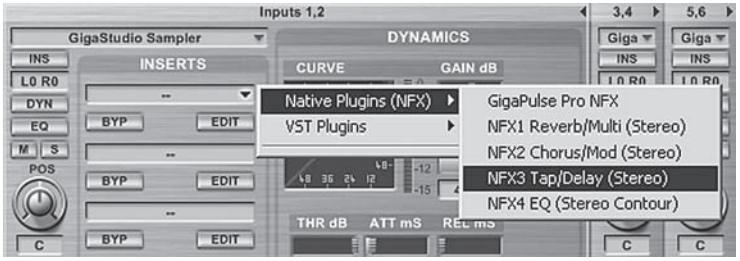
5 Set THR dB to –12. Signals above this level will be compressed. ***Ratio***, ***ATT***, and ***REL*** should be left at their defaults (4.3:1, 10, and 150 respectively). Also click on the ***Auto*** switch to automatically adjust the overall level and make up for some of the signal loss created during the compression process. Play a note; it will have a higher average level, and sustain longer if it has a decay. Compare 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.

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

DSP – INSERTING EFFECTS

1

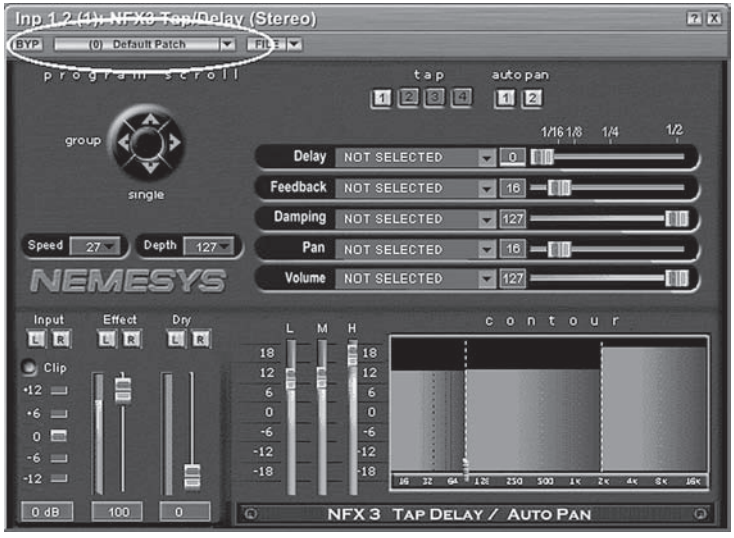


1 Click on the downward pointing triangle toward the right of the first effects Insert field, then go ***Native Plugins (NFX) > NFX3 Tap/Delay (Stereo)***.

2 The ***Tap Delay*** effect appears. Play a note, and you should hear an echo. Toward the top, under the ***Effect*** name, ***Default Patch*** should be selected.

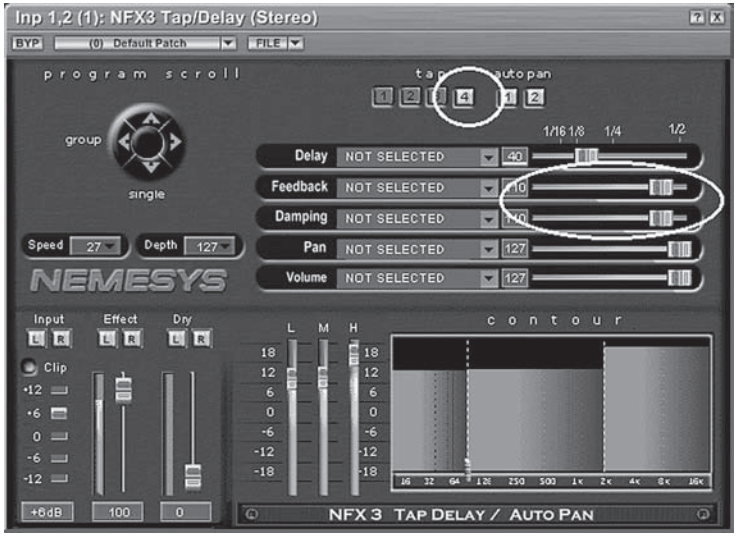
3 Click on ***Tap 4***, and increase both ***Feedback*** and ***Damping*** to 110. The echoes now continue for much longer because of the feedback. Turn Damping down to 50; successive echoes sound duller, as if they were occurring in a room with a lot of absorbent material.

2

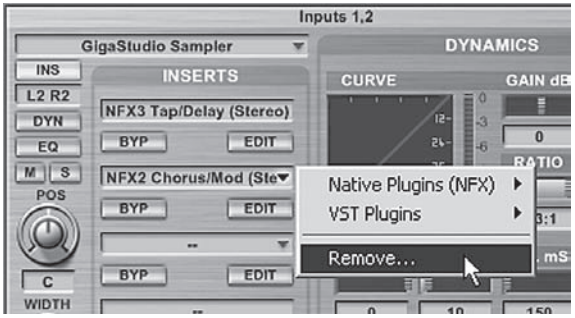


Note that there are four individually adjustable taps, as well as a Contour section that lets you tailor the overall frequency response. This is a versatile effect, so be sure to check out the manual for what the various NFX can do. GigaStudio can also load VST format effects if you have any installed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

3



4 Remove the effect by clicking in the ***Insert*** field as if you were going to insert an effect, and select ***Remove***. We now

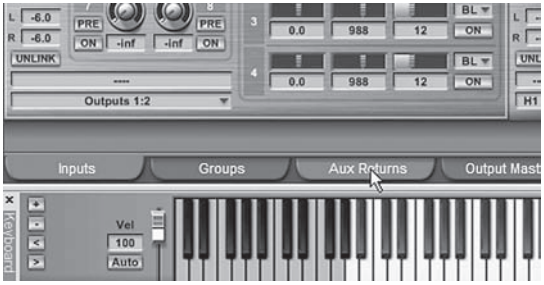


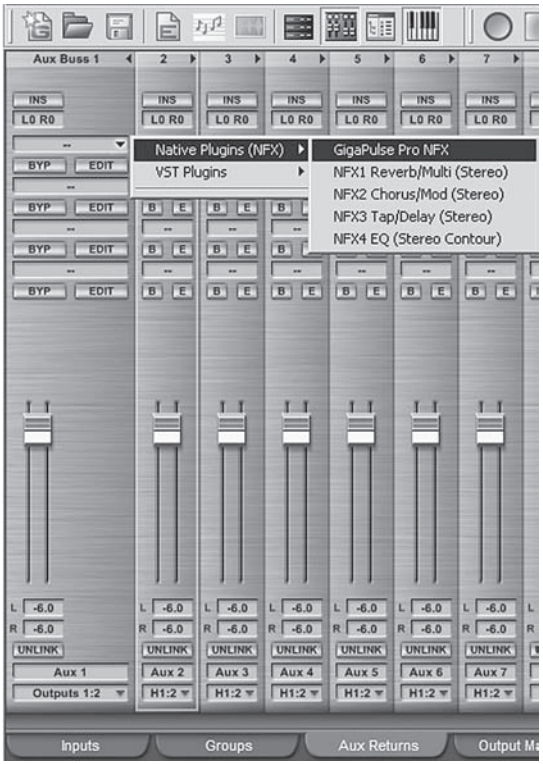
4

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.

DSP – AUX BUSES AND AUX EFFECTS

1



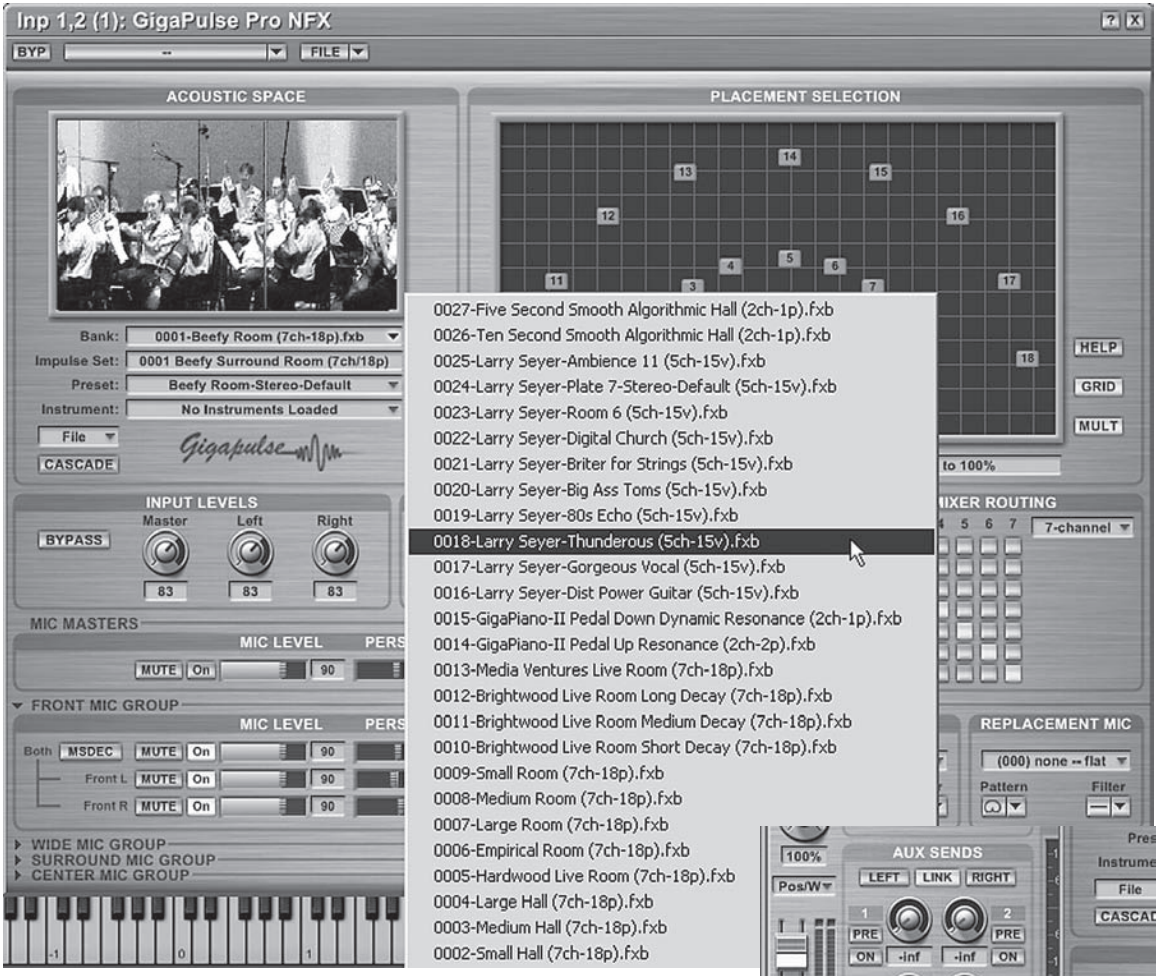


2

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 overall sounds that should affect multiple channels, such as room 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. 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 extremely cool-looking GigaPulse screen appears (see top of next page). Under Bank, select ***Preset 0018 – Larry Seyer – Thunderous (5ch-15v).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.

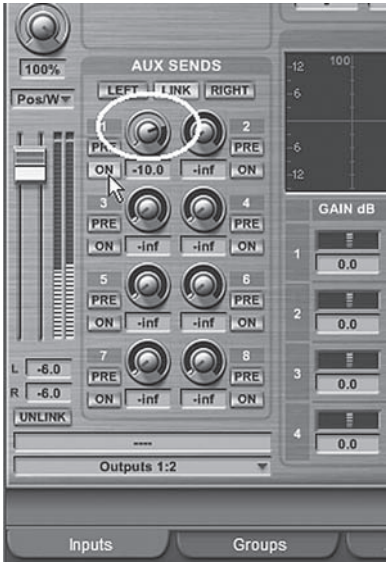
3



4 While GigaPulse still has the focus, drag the ***Wet/Dry*** control (Under "Mic Masters") all the way to the right so that all Wet/Dry mix parameters read 100%.

5 Click on the ***Inputs*** tab so you can see the expanded channel strip for the left-most channel. We're now going to adjust the amount of signal going to the GigaPulse.

5

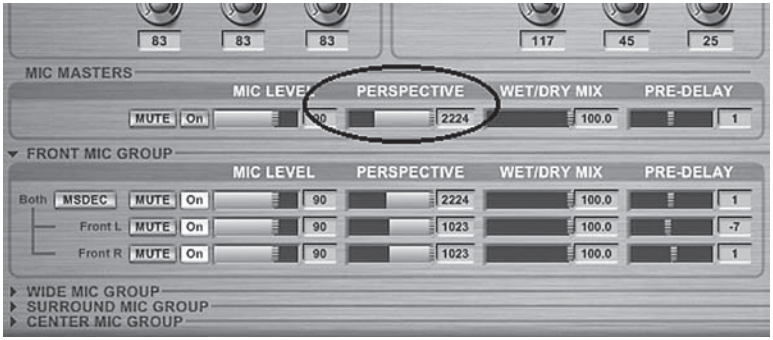


6

6 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 –10 or so. Play a note; you should now hear some room ambience added to the instrument you have loaded.

7 Try out different banks, and prepare to be amazed. With the ***Larry Seyer 5ch*** presets, place them on Aux Returns and use the Wet/Dry master slider set to 100%. Also check out some of the variations included with the Seyer 5ch presets. Other presets should be used as Insert effects; play with the master ***Perspective*** control to change the amount of room sound, and leave the Wet/Dry mix controls at 100%.

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.



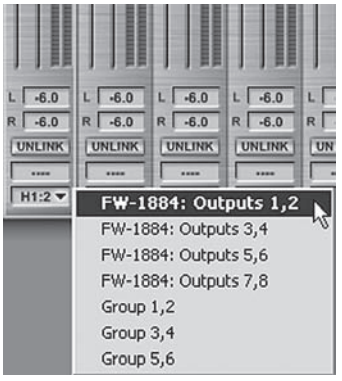
7

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



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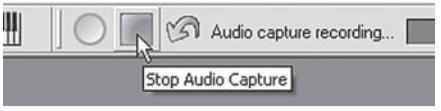
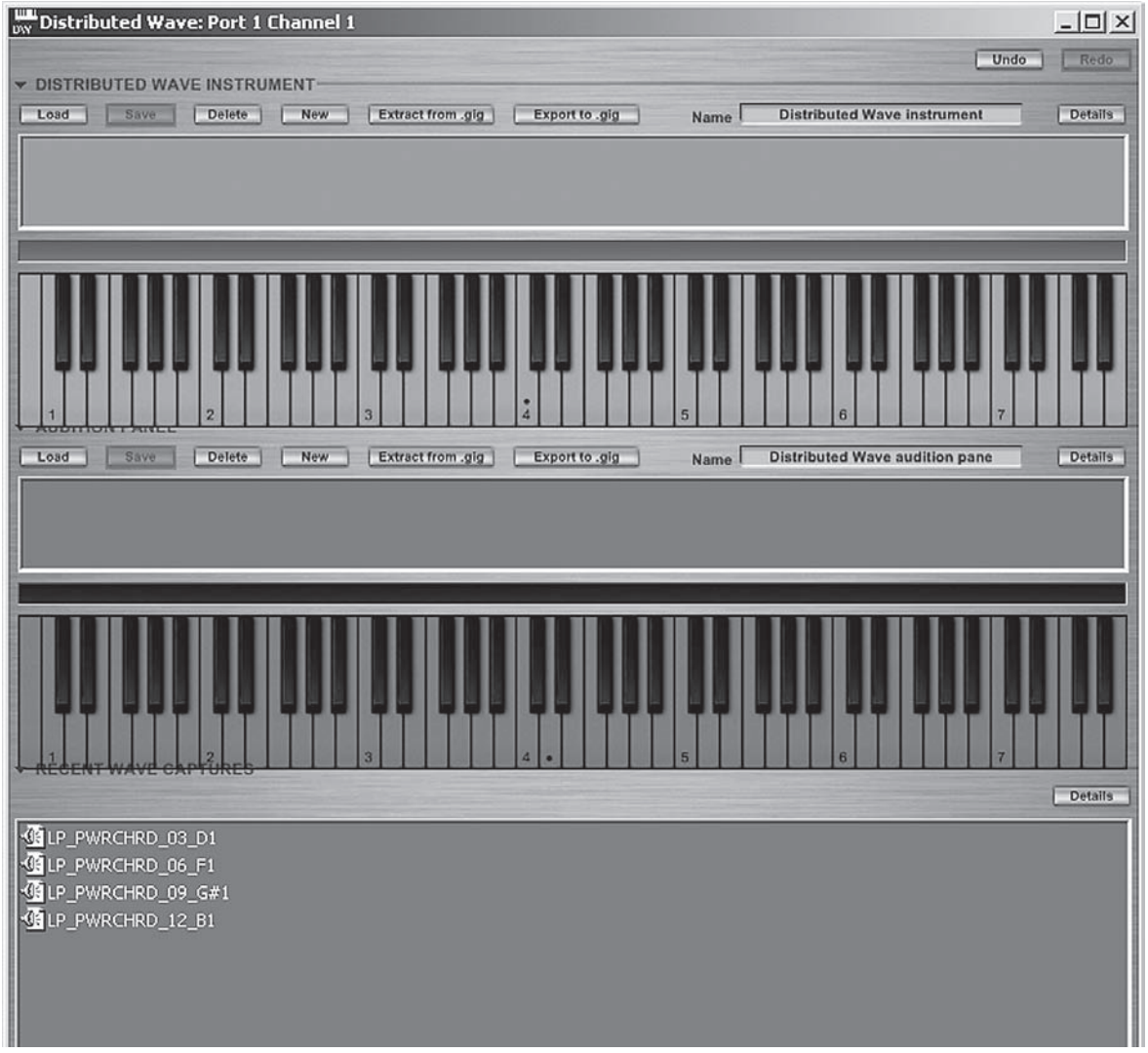


5

6

7

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



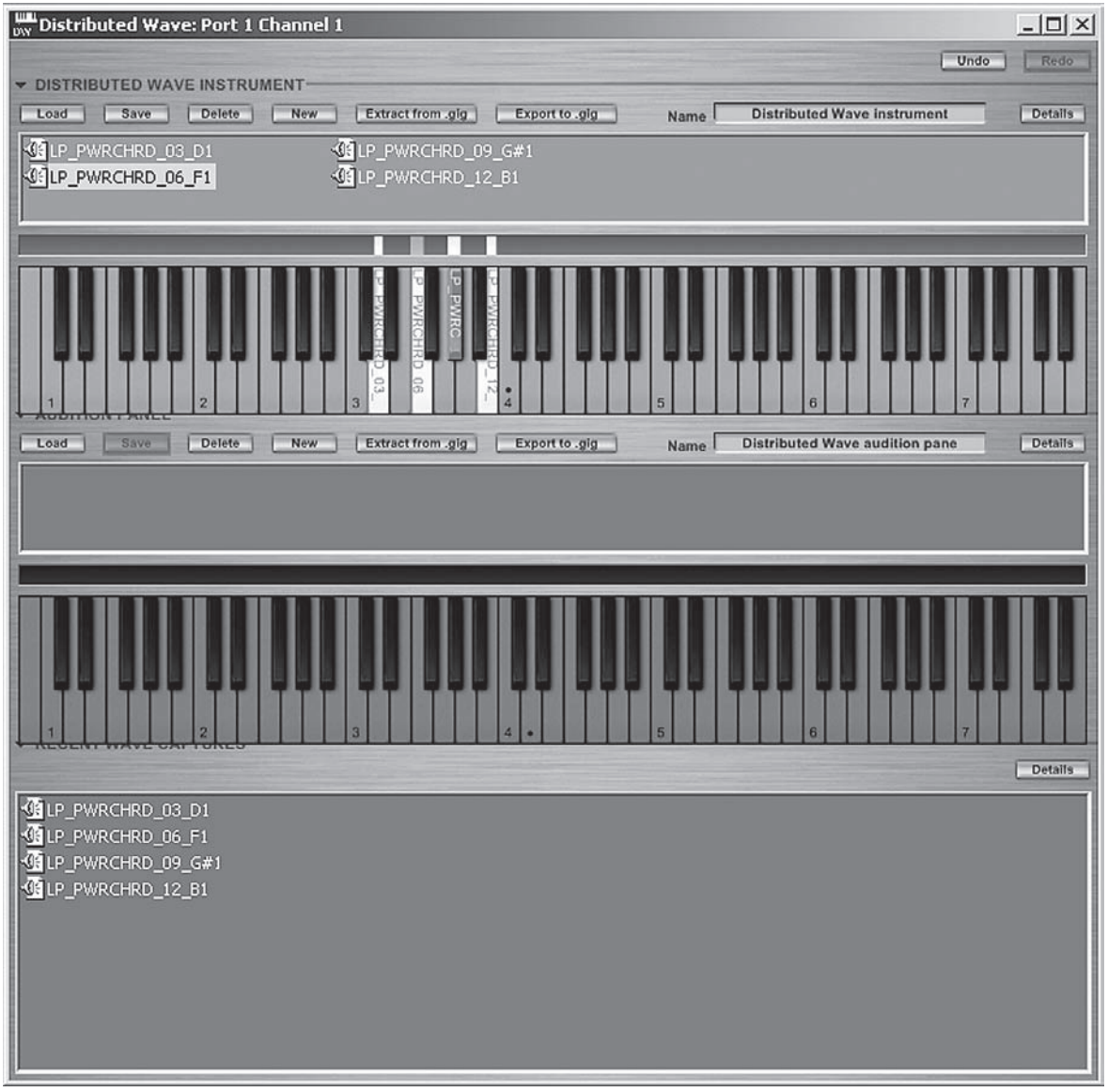
8

#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

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.

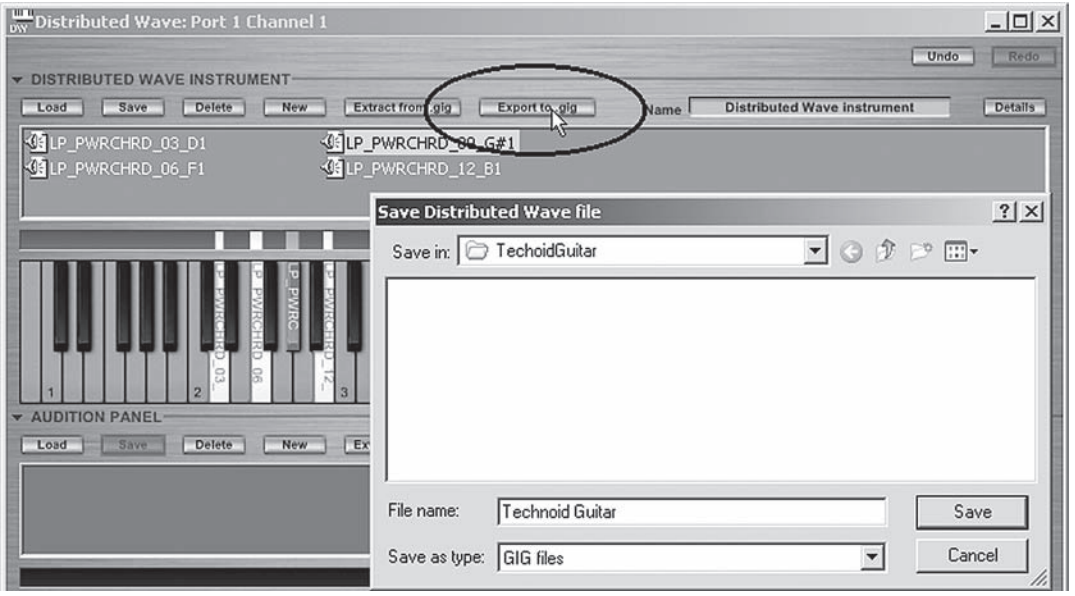


10

10 Click on the keys to audition them. After deciding where the keys should be mapped, drag them to the appropriate keys on the upper pane.

Creating a Distributed Wave Instrument ▸ page 31

11 You can now click on the ***Export*** button to export the Distributed Instrument as a .GIG file, or the ***Save*** button (four buttons to the left of Export) to save it as a Distributed Instrument.



11

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.

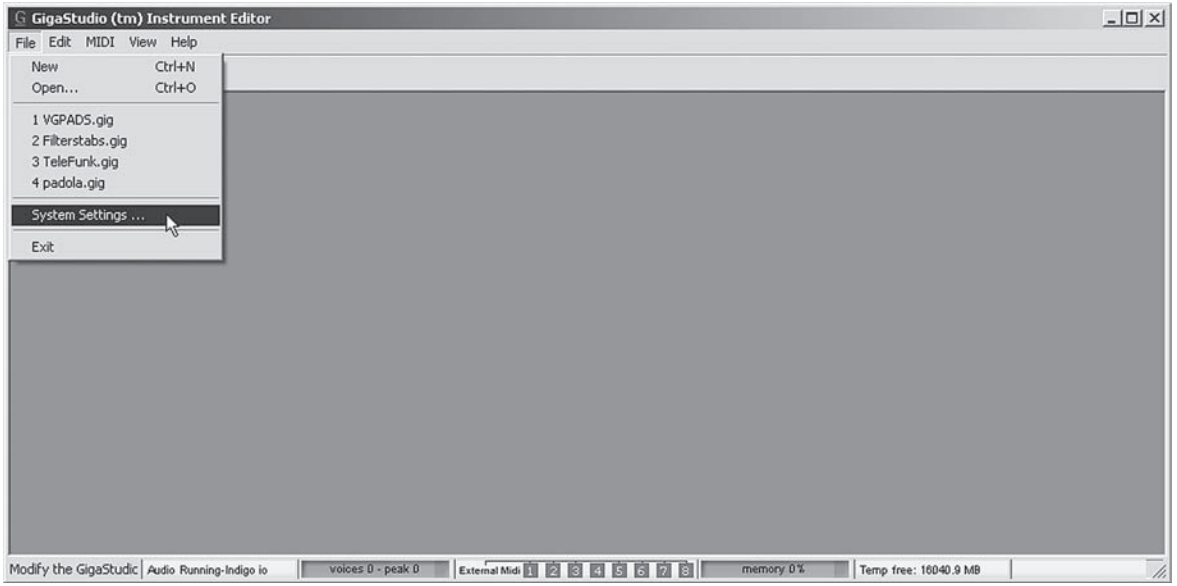
For this example, we'll create an octave of multi-sampled guitar sounds using a VG8 guitar synthesizer. This was sampled at four different notes (D2, F2, G#2, and B2) and furthermore, each note was sampled at four different velocities (soft, medium, loud, and loudest), giving a total of 16 samples. The 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.

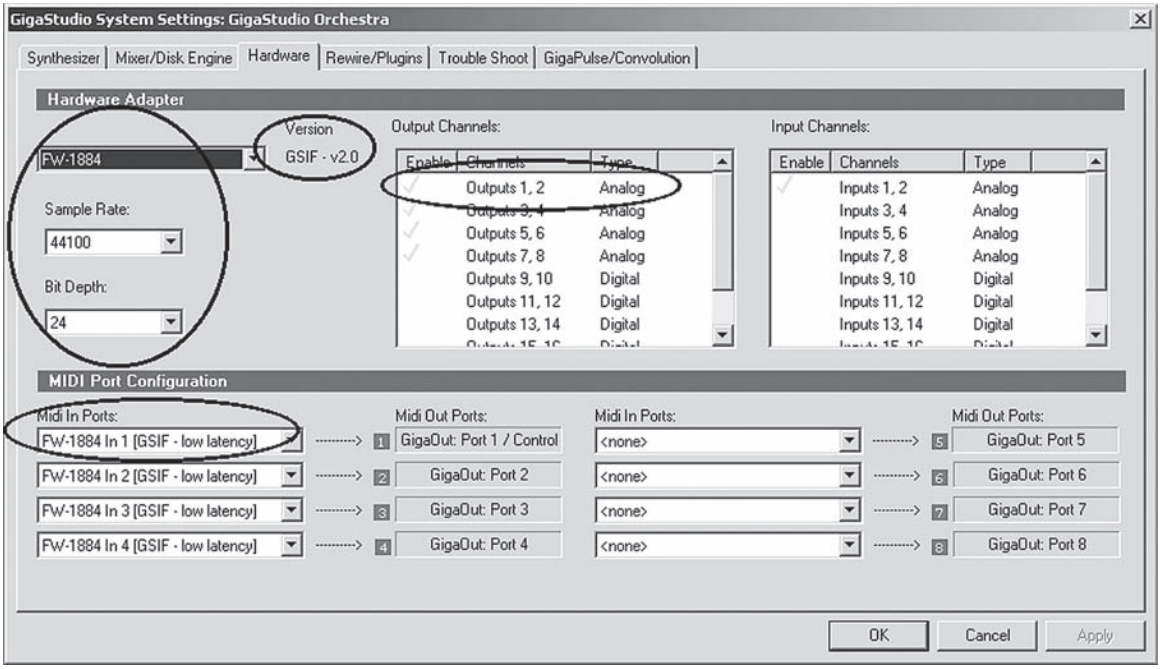
1

1 Although you can access the Instrument Editor from GigaStudio, it's also possible (and usually preferable) to run it as a stand-alone application. Double-click on the ***GsEdit.exe*** icon or its shortcut icon to open it.

2

2 You'll be presented with a blank screen. Before proceeding,





3

let's make sure everything is set up properly, so go ***File > System Settings.***

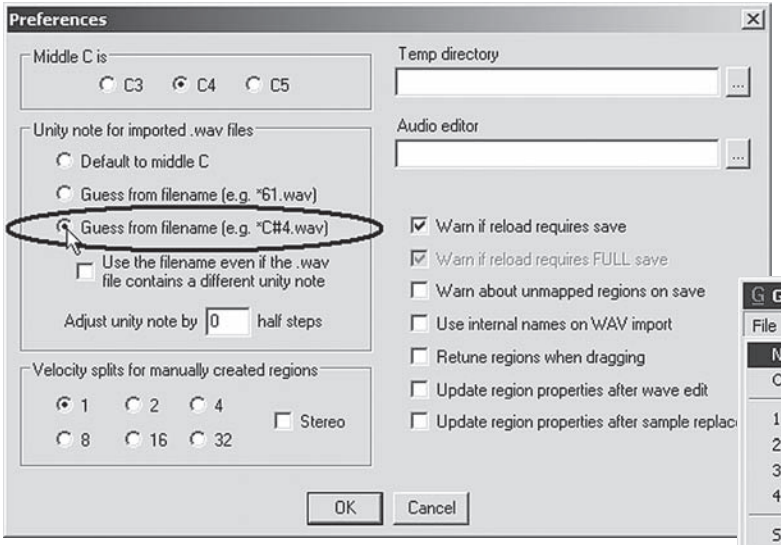
3 As with Gigastudio, verify that your audio interface and MIDI input ports are recognized, that GSIF drivers are being used, and that at least one output pair of channels is enabled.

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

4

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 (screen shot on next page).

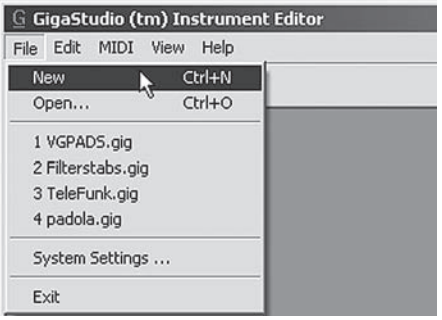
That leaves a gap between them of four notes (C#2, D2, D#2, E2) so GigaStudio stretches the first sample up to cover C#2 and D2, and the second sample down to cover E2 and F2. GigaStudio can recognize either a MIDI Note Number or Note Name embedded in the filename; in this case, make sure "Guess from filename (e.g., C#4)" is checked because that's



5

how the samples are named in this format. The other parameters aren't important for now.

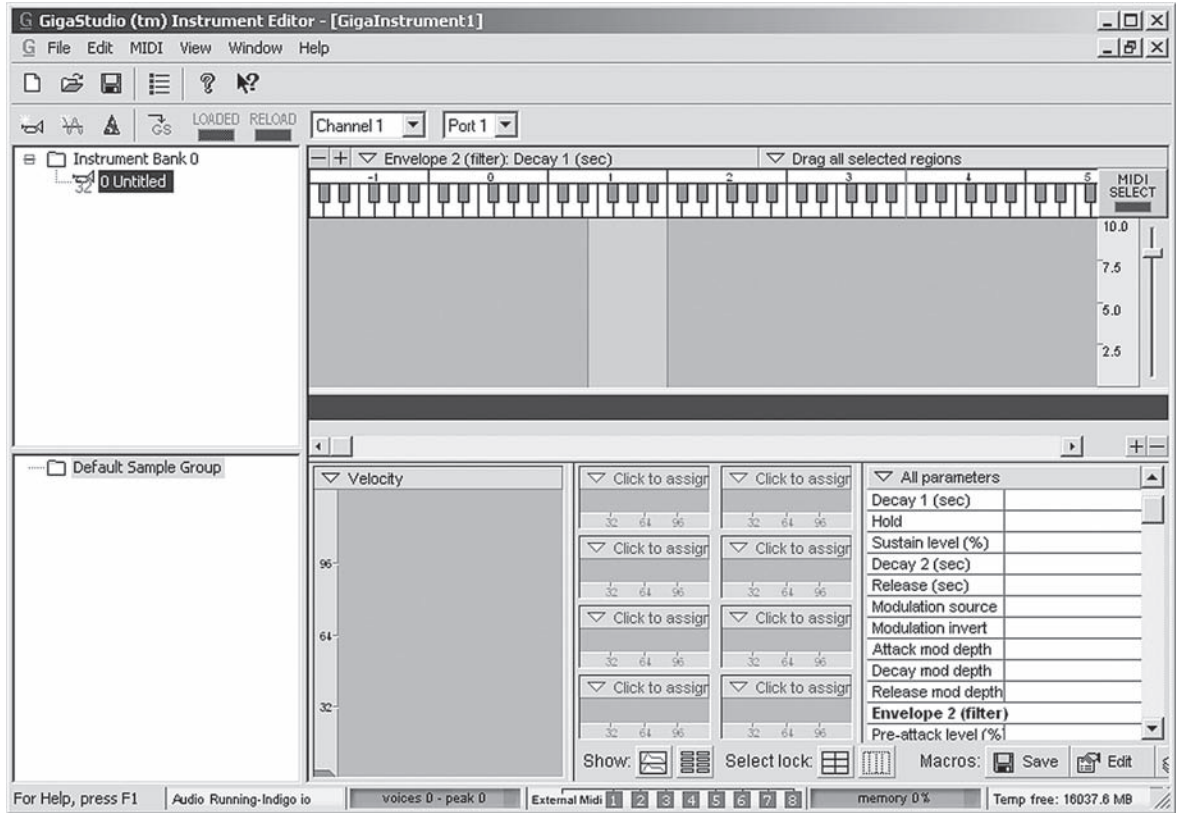
6 Now let's start creating our instrument by going ***File > New.***



6

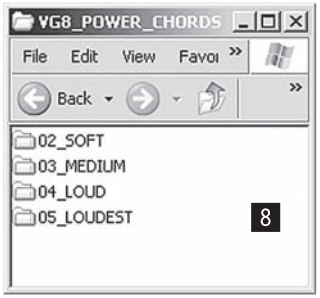
7 An impressive-looking screen appears, which is where the samples will be mapped and edited.

7



8 Locate the folder "VG8_POWER_CHORDS" provided on the distribution CD-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.



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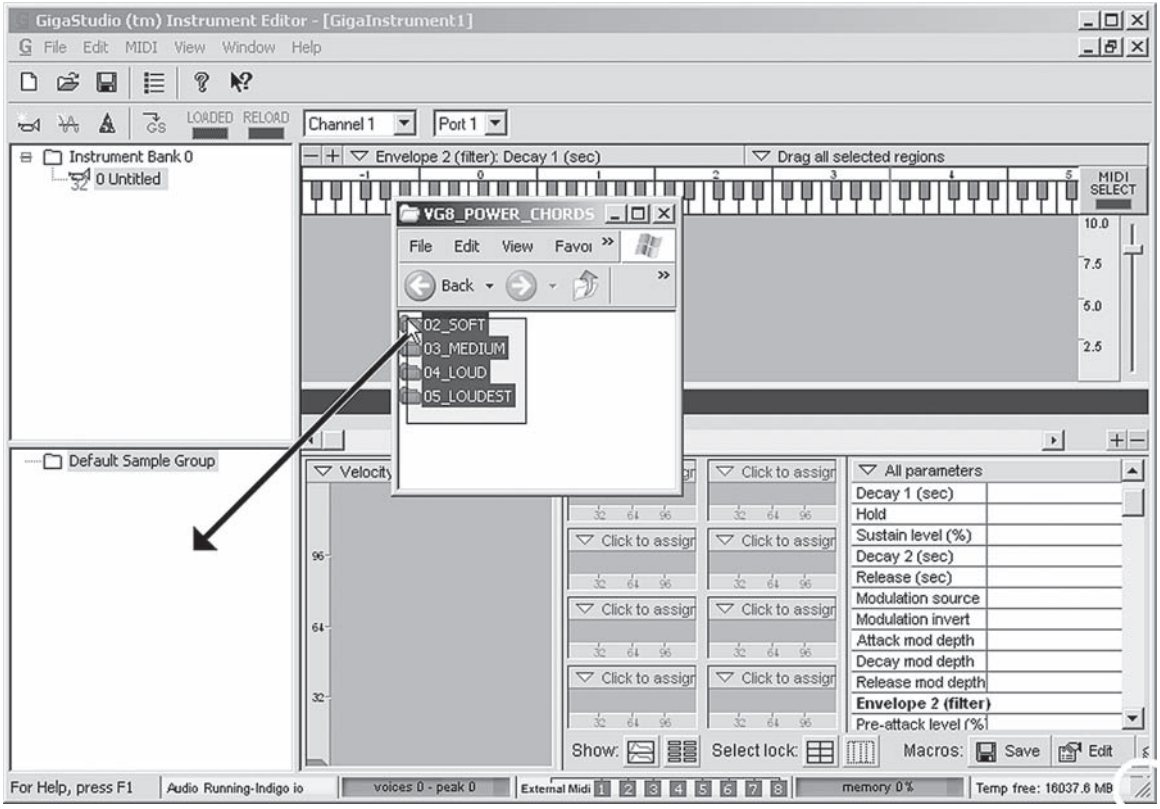

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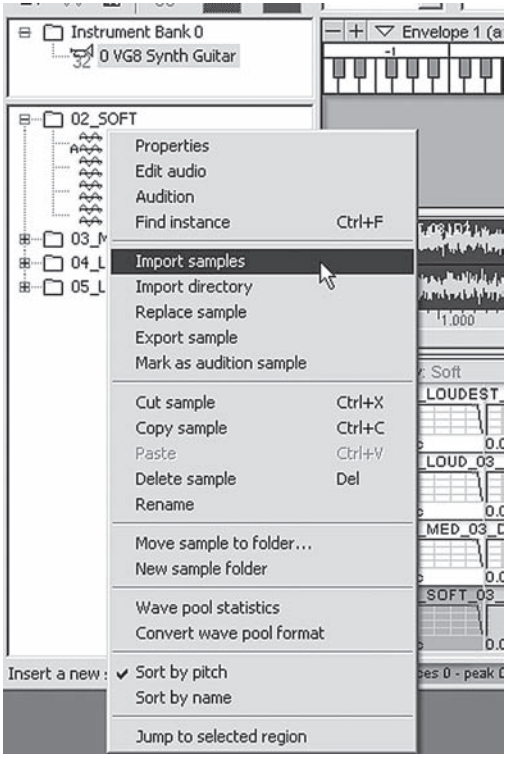
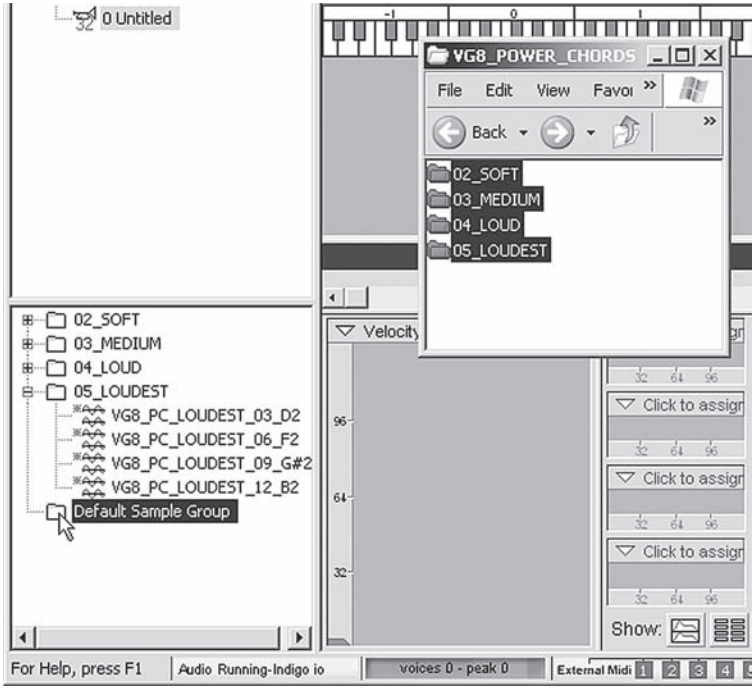


Although drag and drop is convenient, you can also right-click in the Samples Window to bring up a sample management menu: Import, export, copy, delete, and sort samples, as well as many other functions.

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***."

10



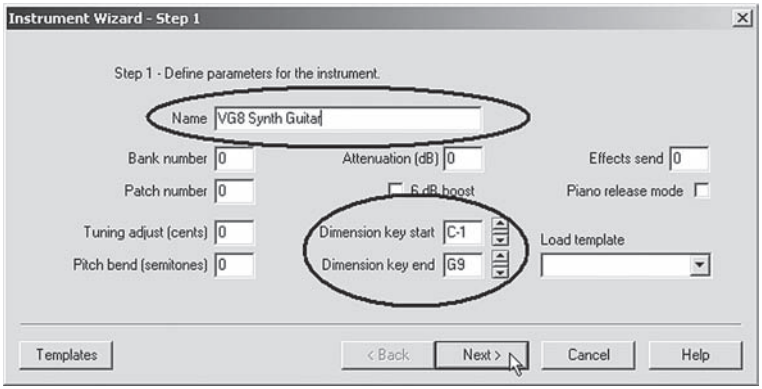
MEET THE WIZARD

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

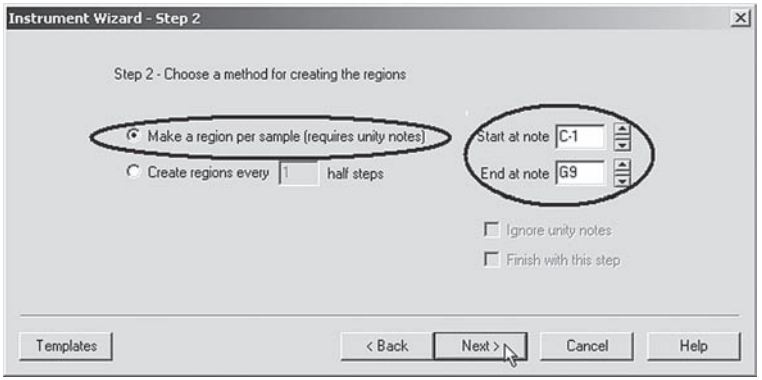
1 Click on the ***Instrument Wizard*** icon.

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.



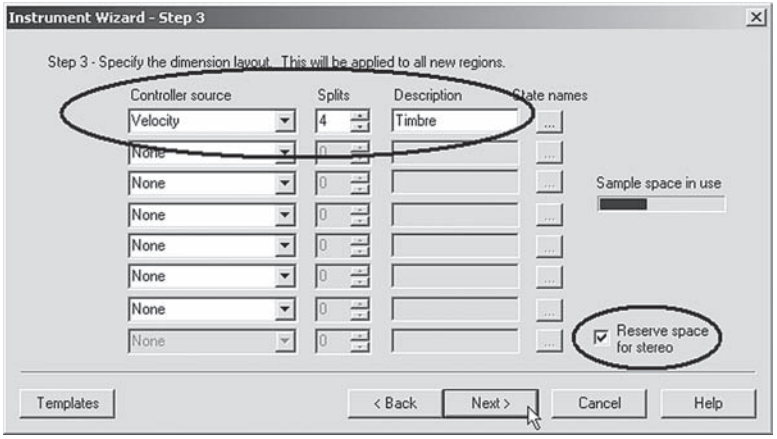
2

3 Click on "***Make a Region per Sample***." 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 ___ 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-1 and G9 respectively (same values as in Step 1). When you're done, click "***Next***."



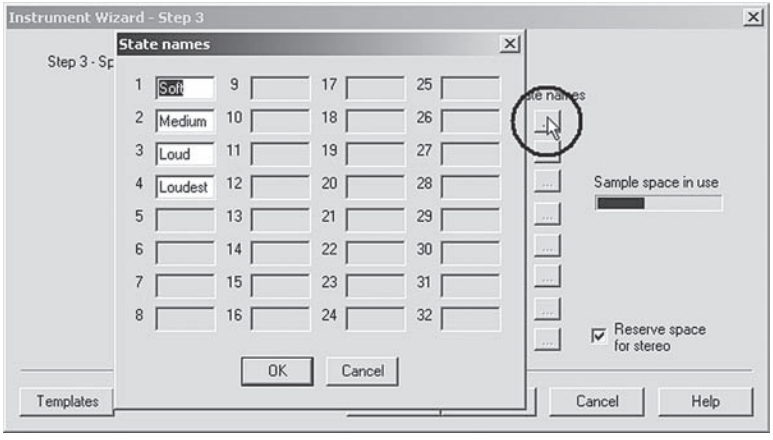
3

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.



4

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.

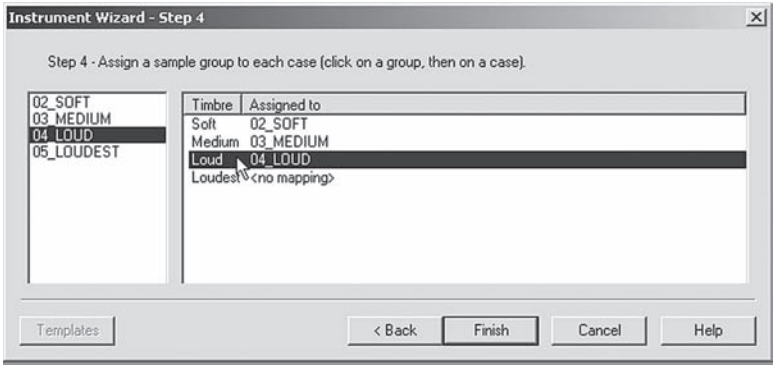


5

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

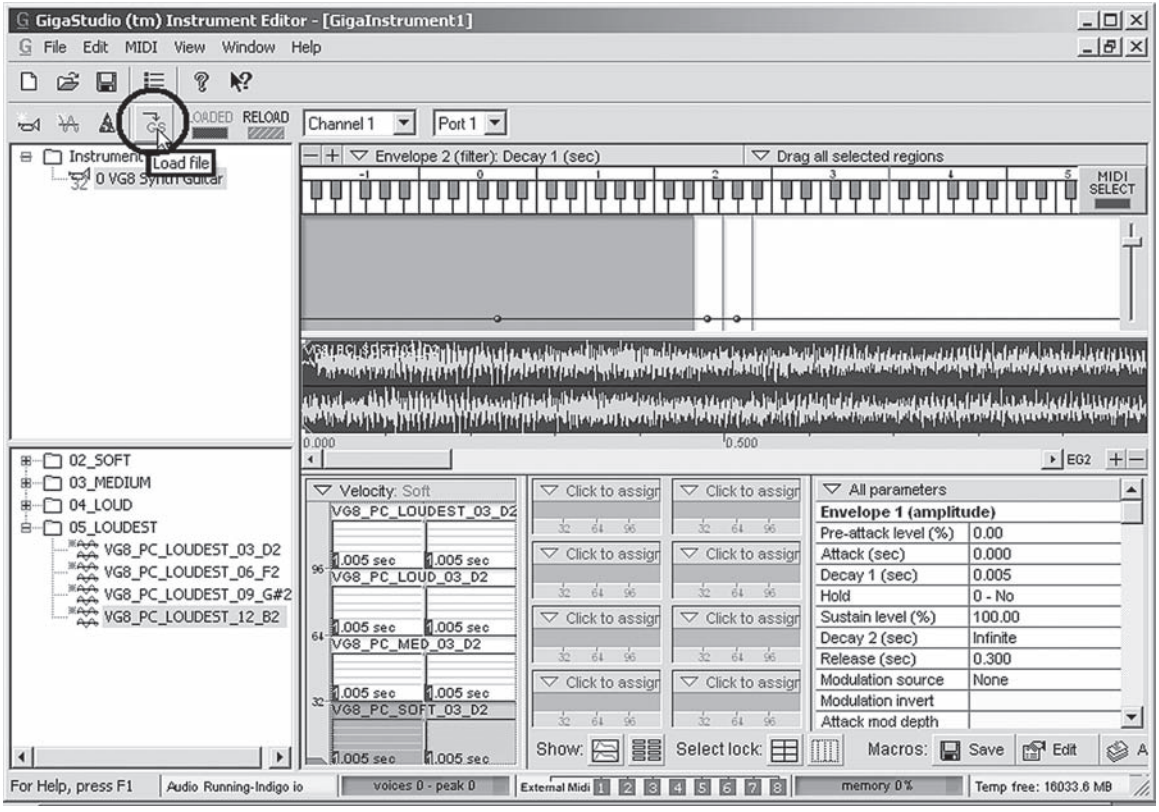
yet. After assigning all four, the Instrument Editor now knows what samples you're using, where they are to be mapped across the keyboard, and which samples to associate with which Dimension. We're almost there, so click on "***Finish***."

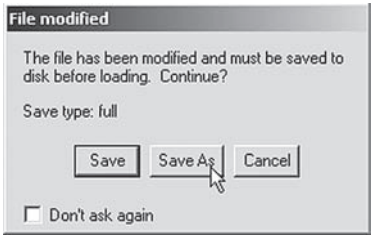


6

7 The Instrument has now been populated with Samples and Splits. Note that most of the action is happening two octave 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.

7



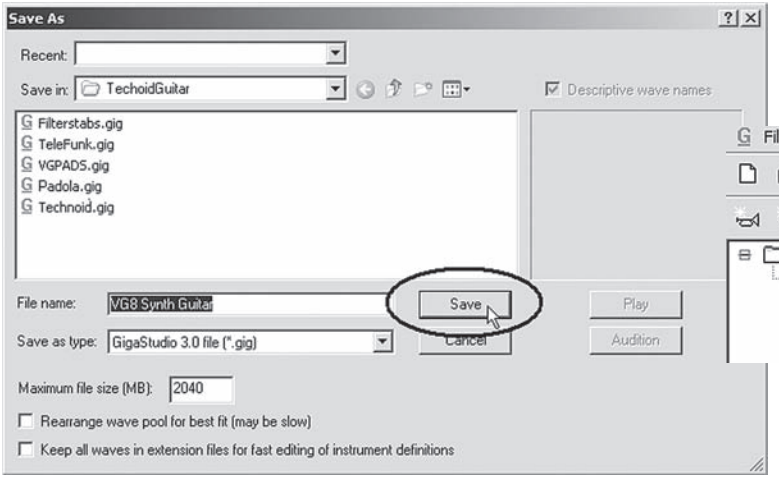


8

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.



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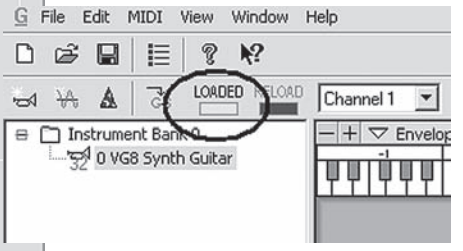


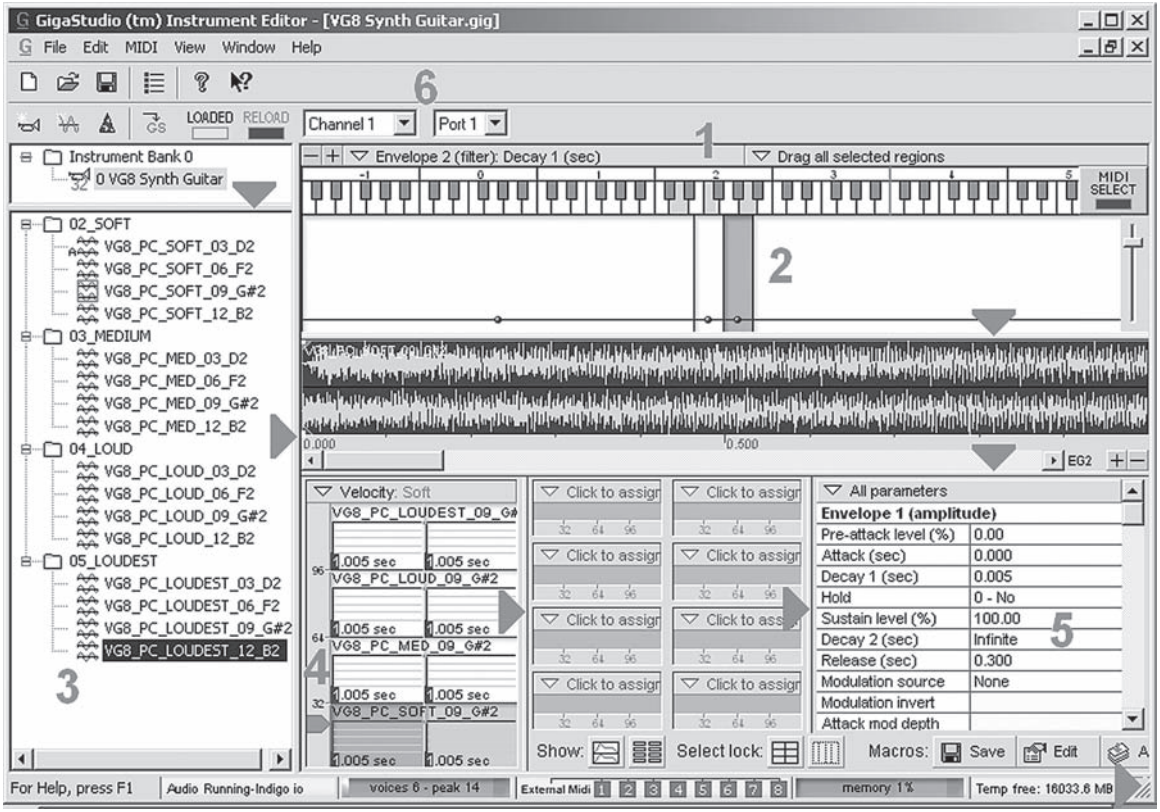
10

11 Let's check out this screen in more detail (screen shot at top of next page).

► 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.

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

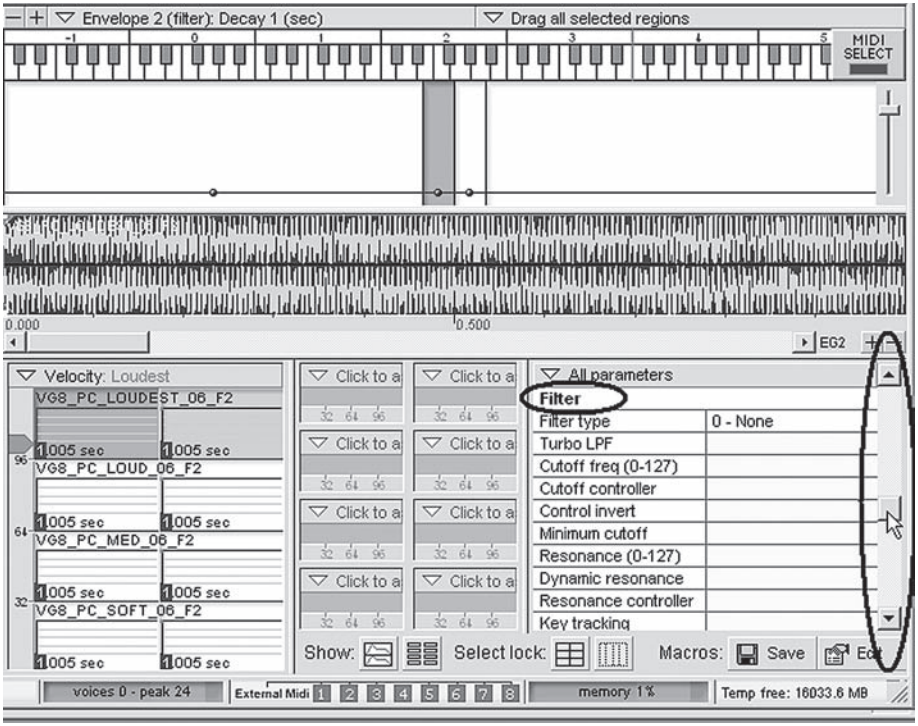


11

- ***(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 (scrren shot at top of next page). 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.

12



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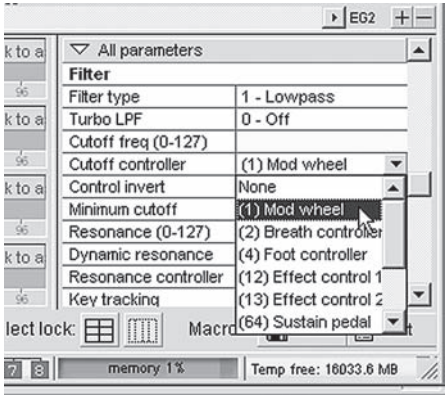


13 Click on "***Filter Type***," and a triangle for a drop-down menu appears at the right of the field. Select ***Lowpass*** filter. Similarly, click on ***Cutoff Controller*** and choose ***Mod Wheel***. Move the mod wheel as you play the keys, and you should hear a filter/wa effect.

14 We'll now go for a sharper sound (screen shot at top of next page. Click in the resonance field; there are three ways to edit this value.

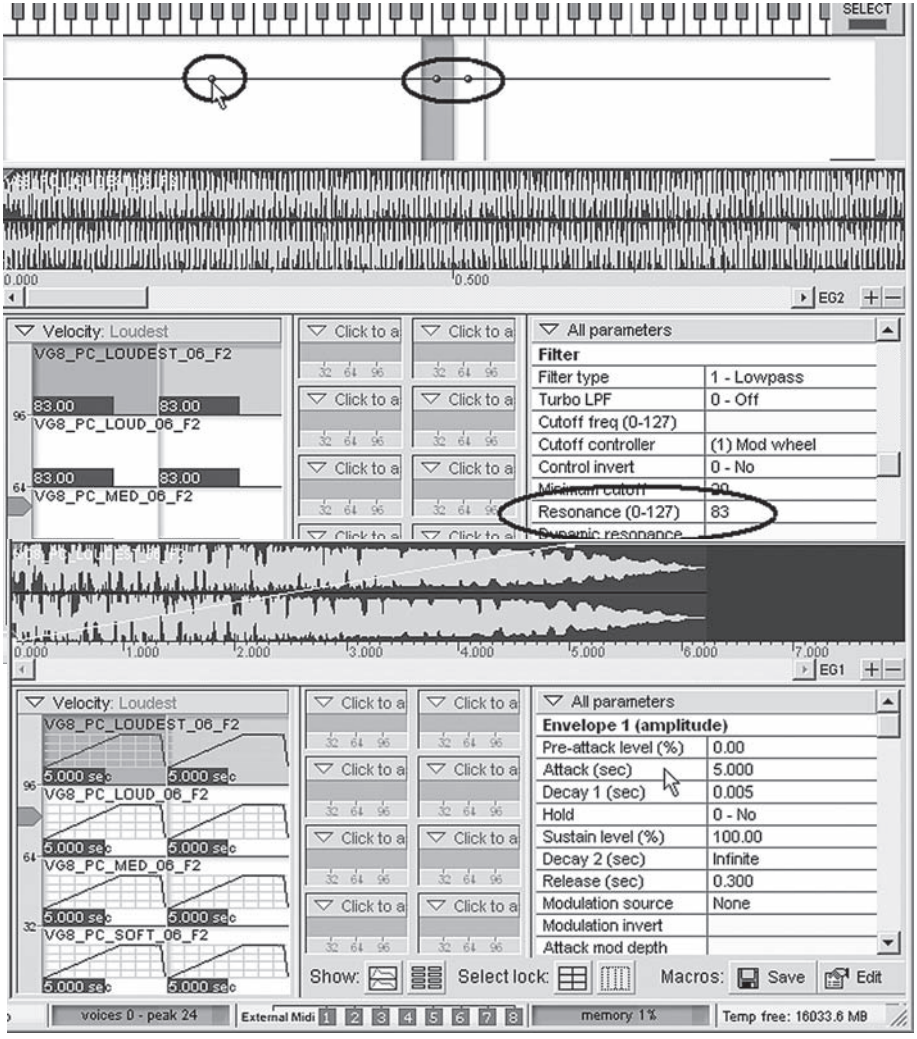
- ► Click in the resonance field then drag up to increase the value, down to decrease.
- ► Enter a number directly in the field.

► Click on one of the "***edit knobs***" in the line that traverses the samples, and drag up or down to change the value. This affects all selected samples only. You can use this knob to change parameters of individual samples as well.

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 ***Amplitude 1*** (envelope). Click on

"***Attack (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 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.



14 - 16

The last 43 pages 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 Big Manual when you get a chance — we've only scratched the surface.

Also, please visit **www.tascamgiga.com** for news about updates, recent sample libraries and other information. ■

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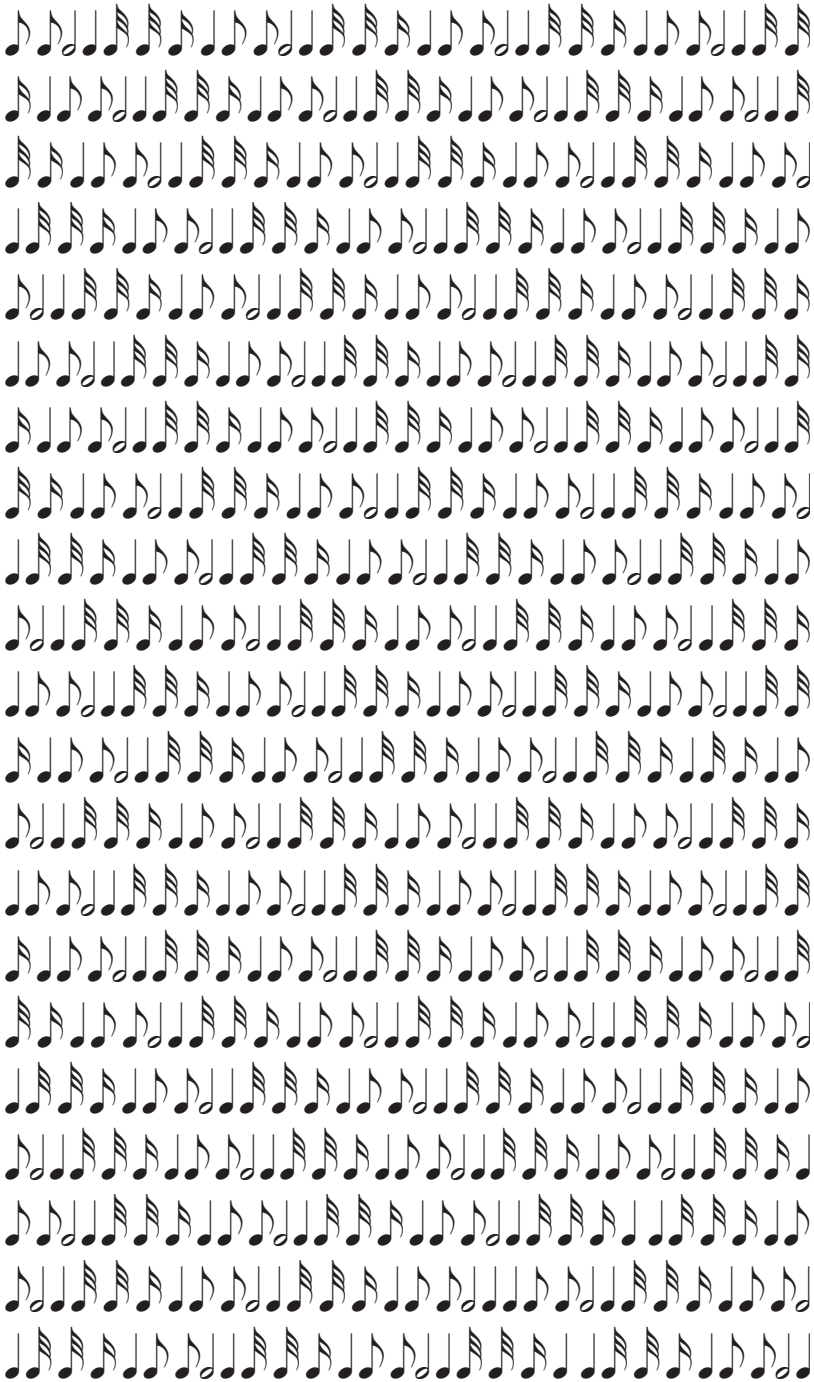

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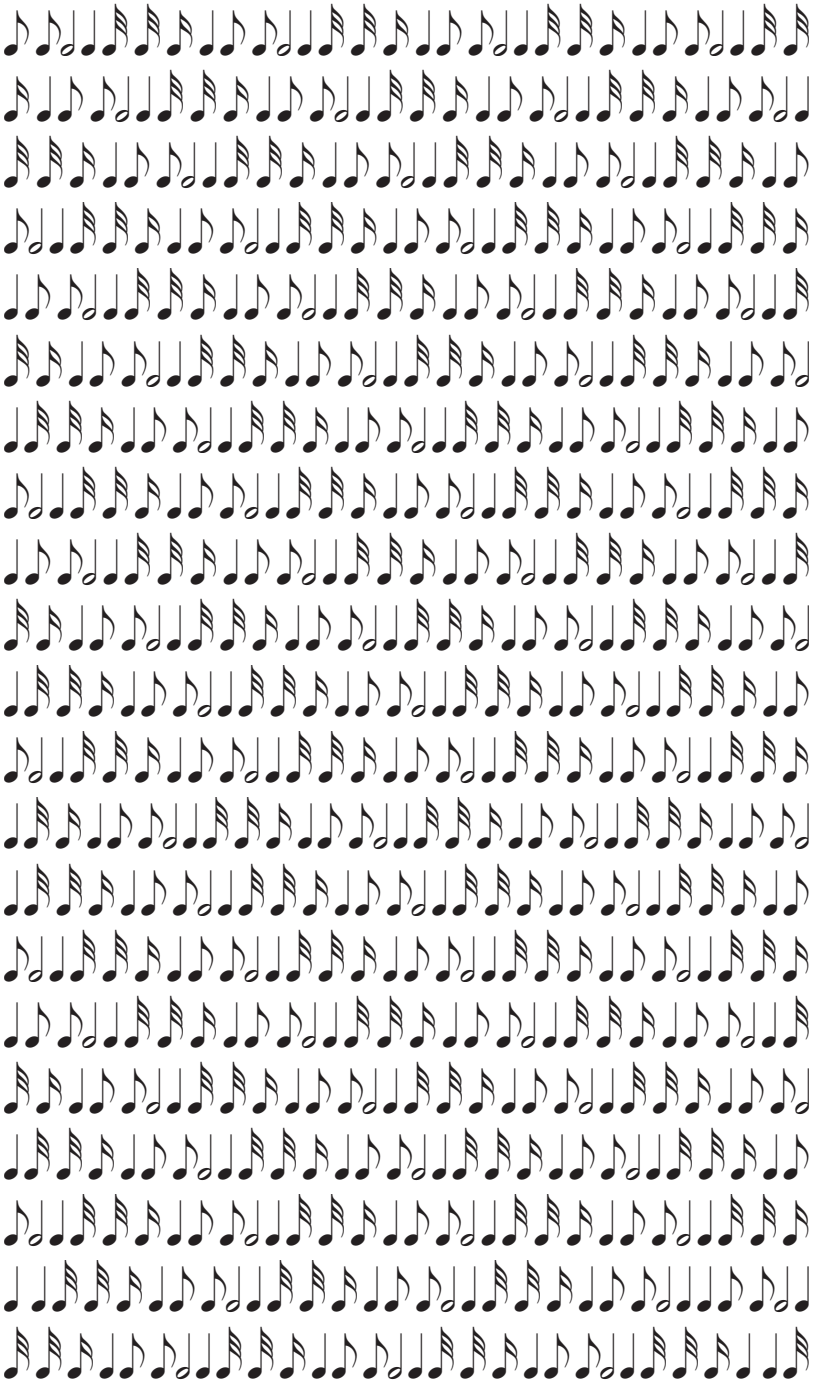

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