



GigaStudio 3 is the long-awaited new version of GigaStudio, the world's biggest, best sampling instrument. Available in three versions – *Orchestra*, *Ensemble* and *Solo* – it offers up to unlimited polyphony, 96kHz/24-bit sample support, real-time convolution modeling and a new GUI. Plus it retains the features that have made GigaStudio the professional choice for sampling, such as disk streaming, the lowest latency of any sampler and the world's best sound libraries.

## Why GigaStudio 3.0 is so musical, powerful and accurate.

### Streaming samples for authentic instrument sounds.

GigaStudio 3 uses hard disk streaming to create the most realistic sampled instruments ever created including extensive orchestral collections, detailed piano samples, rich basses, rare keyboards and much more.

GS3 can load sample files up to 4.3 gigabytes in size. The attack of each sample is loaded into RAM for instant playback; then the rest of the sample streams off of the hard drive. This gives you access to big, dynamic samples without needing tons of RAM in your computer.

### Why is this better than the Piano sound on my synth?

Let's compare the 3+ gigabyte GigaPiano 2, included with the *Orchestra* and *Ensemble* editions of GigaStudio 3, with the 16 to 64 megabyte piano sample found in a typical synthesizer.

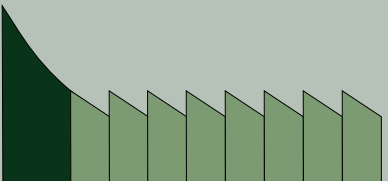
On a typical synthesizer, the piano might only be sampled twice every octave (called *cross switches*), so the middle C sample may need to stretch all the way up to middle F#. In GigaPiano 2, every key on the piano is sampled — not once but seven times to capture the sound variations created by different key velocities.

A typical synth piano will only have one to three *cross switches* (different samples at various loudness levels) per key, so you often hear the transition from soft to loud samples. GigaPiano's seven *cross switches* per piano key give you a far more realistic playing dynamic.

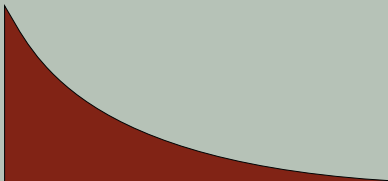
### The whole thing, not a bunch of loops.

GigaPiano 2 includes recordings of the entire decay of a piano note, even though the low bass notes may decay for 20

seconds or more. A synthesizer can't possibly do this with just a few megabytes, so they loop the sample after only a second or so. This artificially looped sound is then attenuated using a series of synth filters to approximate the natural decay of a piano



Synthesizer resorts to looping after a few seconds



GigaStudio: Entire 30-second sample recorded.

key — GigaStudio 3.0 can handle by just playing the actual recording.

### Choose different mic techniques.

Many GigaStudio libraries give you your choice of close, distant and player's perspective mic locations. You can load all of these samples at once and balance between them when mixing, or even output different mics to multiple outputs for a 5.1 surround mix. Obviously, this is something that's impossible to do in a synthesizer.

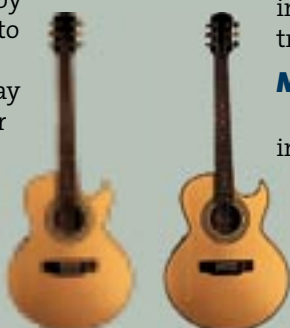
### Giga samples aren't freeze-dried or condensed.

Finally, synth samples are often converted to a lower sampling rate to save on ROM space. Since synthesizers typically only have 50-100

megabytes of total sound ROM for all of the instruments they want to include, they might cut corners by sample rate converting to save space.

For example, they may decide that a bass guitar or kick drum doesn't have a lot of high end, so re-sampling it at 22kHz is acceptable.

GigaStudio is going the complete opposite direction, with GS3 now offering up to 96kHz sampling. Rack-mounted hardware samplers might be able to load



Synth: lower sample rate reduces quality  
GigaStudio: 96kHz sample rate for detail and realism

includes four-band parametric EQ on every channel, with a graphic display to check your settings at a glance. Each channel has eight aux sends as well as a high quality compressor.

### VST plug-in hosting.

GigaStudio 3.0 now includes VST plug-in support, so you can use your favorite effects plug-ins to process sounds within the DSP Station mixer. Insert your favorite 3rd-party compressor plug-in on a snare drum, a filter plug-in on a string line, tube amp distortion on a bass track – wherever your imagination takes you.

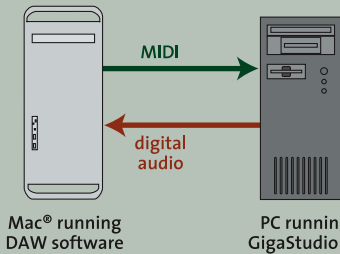
### Integration with your Studio.

GigaStudio is a Windows® application that takes advantage of the power of Pentium-compatible processors.

As a free-standing application, it can take advantage of Kernel-level processing power. This means that it gets to dig underneath the Windows layer down to the nuts-and-bolts of your computer's CPU for more processing power. That results in more polyphony and lower latency (delay between MIDI input and sound coming out) than plug-in-based software samplers. In fact, GigaStudio has the lowest latency of any sampler, anywhere, ever.

### "But I'm a Mac® person!"

You may be wondering how to take advantage of GigaStudio in a Mac-based studio. Most composers use a dedicated computer to run GigaStudio, dedicating all of the power of one system to running their sampling workstation. With the constantly-falling prices of PCs, you can put together a screaming system for less than the price of many rack-mount synth modules. If you look at price vs. performance, your GigaStudio computer workstation will give you much more



realistic sounds than any synth module, not to mention more multitimbral parts, higher polyphony and better effects.

### GigaPulse SP and Pro: The Next Generation of Convolution Effects.

GigaPulse™ is an exciting new component of GigaStudio 3.0. GigaPulse employs convolution to create incredibly realistic reverb, mic modeling and instrument resonance modeling. Convolution uses an actual recording as the basis for signal processing. For example, a concert hall is recorded with a frequency sweep called an *impulse*. This impulse can then be imported into GigaPulse™ Pro (the encoding processor included with GS3 *Orchestra*) where our concert hall impulse can be included/encoded into a sampled instrument or .gig file. When this instrument, now embedded with convolution, is loaded into GS3, GigaPulse SP (the convolution player included with all versions of GS3) reveals itself. The result sounds like you're playing in that hall.

TASCAM's new GigaPulse technology takes real-time convolution to the next level. With real-time surround Acoustic Space Modeling, our proprietary technology goes far beyond any other convolution-based plug-in. Of course all of these features are included in the GigaPulse SP engine in every version of GigaStudio. The location of the performer in an acoustic space can be specifically located in the room, and the perspective of the mic can be changed for close-micing simulation. GigaPulse has seven microphone channels, compared to the two channels in every other convolution effects processor,

which is ideal for simulating Decca-Tree mic techniques and mixing in surround.

### Convolve your tail off.

A unique technology called *Tail Model* is available to reduce the processing load of running convolution effects. Often, more than half of the impulse sample is under –80dB, too low to be heard in a mix. Tail Model is a unique way to combine convolution with traditional reverb processing. It dynamically generates a reverb decay based on the real impulse recording. The result is a reverb sound that's just as lifelike, but in a much more CPU-friendly process.

### Built-in virtual mic closet.

GigaPulse also includes mic modeling, allowing you to simulate the response of many popular microphones. Try the model of a vintage Neumann® M50 on your string section, or infuse the response of a classic tube AKG® C12 into your piano tracks. The mic modeling feature can also simulate other processors, such as an exciter or a vintage tube EQ, to add another dimension to your signal.

### Resonance, the heart and soul of a musical instrument.

Another unique new feature of GigaPulse SP is the ability to use instrument resonance recordings. The body of an instrument has an acoustic signature that is unique to that instrument. With a little help from convolution technology it can be captured. Now sampled instruments can be created with instrument bodies swapped between or removed from

different instruments.

A violin sample can be created that allows composers to switch the body resonance from a Stradavarius to a Guarneri, or even a Stratocaster guitar. This adds a new level of flexibility and

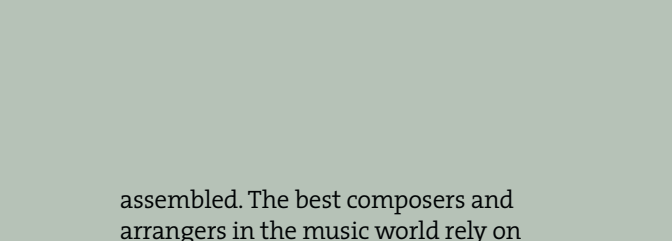


experimentation to the performance that's often missing in solo instrument samples. Adding several instrument resonance impulses to a piano, violin, guitar, or other acoustic instrument increases realism while also adding value to the sample library. Many different instrument models can be included and based off of a similar sample set providing virtually unlimited creativity to the musician. You get an increased level of realism, greater instrument variations, all while conserving hard drive space and RAM demands.

As new GigaStudio 3.0 samples and libraries are released, they will have the ability to include three different types of convolution or impulse sample sets: Instrument Resonance, Mic Modeling, and Acoustic Space Modeling. When GigaPulse-encoded instruments are loaded into any of the GS3 versions (*Solo*, *Ensemble* or *Orchestra*),

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TASCAM  
**GIGASTUDIO 3.0**







## For the already converted: what's new in GigaStudio 3.0


 **Unlimited Polyphony**  
Instead of a maximum 160 voices, polyphony for GigaStudio 3.0 *Orchestra* is limited only by the number of drives, drive speed, and processor speed your system has. For example 385 voices are typical on a P4/2.8GHz PC — nearly double the polyphony of GigaStudio 2.5!


 **ReWire**  
GigaStudio 3.0 supports ReWire routing into sequencing/recording applications such as Cubase™, Nuendo®, Sonar™, and Pro Tools®. MIDI from the DAW is routed to GigaStudio. ReWire allows audio generated from GigaStudio to be sent into the DAW application where it automatically shows up on faders in the DAW's mixer section. It gives you the benefits of integrating GS3 into your sequencing software without the performance lag found in VST-based software synths.


 **New DSP Station**  
The GigaStudio 3.0 mixer section has expanded to 128 channels, 32 group faders and features an expanded processing section including a 4-band EQ and compressor on each channel.

 **Quick Edit control**  
Parameters such as tuning, envelopes, filters, attenuation, and sample offset are at your fingertips in real-time without having to go into the instrument editor.


 **VST plug-in hosting**  
 **Real Time Surround Convolution**  
 **Intelligent MIDI**  
New controller rules including Expanded Legato, Alternation, Round Robin, and Random sample playback make instruments sound even more realistic.


 **24-Bit/96kHz instrument support**  
GS3 allows creation and implementation of 24 bit/96kHz sample libraries with 192K hardware support.

 **Enhanced Capture To Wave (multi channel)**  
Now simultaneously record 8 audio streams.

 **Unlimited Instrument Stacking**  
Load as many instruments as you wish on a single MIDI channel. Control each of the stacked instruments parameters and even route each stacked instrument to its own audio channel.

 **Up to 128 Dimensions available for creating expressive keyswitches and crossfades**

 **GSIF 2.0 with Kernel Level MIDI and support for 8 channels of audio input and 32 channels of output**  
Any of the DSP Station's 128 channels can be made active to support input from an outside source; our revolutionary kernel-level audio engine is now available for incoming MIDI streams.

 **GigaPulse™ SP for everyone; GigaPulse™ Pro for sample developers**  
Sample developers now have the ability to encode their instruments with acoustic space/reverb convolution and mic modeling using GigaPulse™ Pro included with GigaStudio *Orchestra*. That encoded content can be played back in any level of GigaStudio via GigaPulse™ SP. Up to seven channels of convolution is supported for surround applications. Resonant body modeling, added to mic modeling and reverb convolution takes sampled instruments to new heights of realism and represents the next major step in sampled instruments like GigaPiano 2.

GigaPulse SP will open up and allow you to change common parameters like Perspective, Pre-Delay, Wet/Dry Mix, Level, etc.

The combination of GS3 and GigaPulse delivers a new level of control, flexibility and realism to sampled instrument performances.

### MIDI Processing.

GigaStudio 3.0 now includes a new kernel-level MIDI processing system, so that latency and jitter are even lower than in previous versions. And since Giga 2.0 had less latency than any other sampler, you can imagine that sample playback in GS3 is just about instantaneous.

More than just changing MIDI features under the hood, GigaStudio 3.0 now offers Intelligent MIDI Processing rules. For example, the Alternation mode is great for recording string parts where you can have notes alternate between up-bow and down-bow samples. A Legato mode triggers different samples depending on how a part is played. For example, the initial attack of a flute note could have a "chiff," but legato notes played after it wouldn't have this sharp attack. And the Random mode is perfect for livening up sampled performances. Instead of triggering the same samples for repeated 16th notes, GS3 can select from a bank of alternate samples so the performance doesn't feel so synthetic.

Many GigaStudio libraries also include articulation files, which allow you to switch to a different instrument

articulation by pressing a key. For example, pressing one key may switch to a legato viola, another key switches to an arco viola, and another to a whole-note trill. By using the keyswitches when playing a melody line, you can create very realistic lines that use three or more articulations.

### Editing and recording your own sounds.

GigaStudio 3.0 has a new Quick Edit window that gives you instant access to the most commonly-accessed real time parameters. It's perfect for moving a part down an octave, changing the filter setting on a bass sound, shortening the release time of a synth sound, or other common tweaks you might do.

GS3 now also has the ability to record up to eight channels directly into the program. Just hook your DAT machine, CD player or mic preamp to a GSIF 2-compatible sound card and start recording. GigaSampler™ 3.0 supports samples at 24-bits/96kHz, so you can capture instruments and effects with extreme detail.

### The world's best sound libraries .

It's no secret that GigaStudio has the best collection of sound libraries ever



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assembled. The best composers and arrangers in the music world rely on GigaStudio for accurate, musical sounds for their productions and film scores.

GigaStudio's exclusive Quick Search technology makes finding the right sound quick and easy. And with the new features in GigaStudio 3.0, those sound libraries will become even more realistic and musical.

For example, GigaPiano 2 is the followup to the piano library that started it all. A fully 24-bit library, this new edition totals over 3GB, with 7 samples taken for each key on the piano. GigaPiano 2 has an exclusive pedal down effect, generated using the GigaPulse SP engine, that simulates the sound of holding down the piano's damper pedal. This is the first library to accurately simulate the effect of pressing down the damper pedal while a note is already held down. GigaPiano 2 is included with GS3 *Orchestra* and *Ensemble*; a "lite" version is included with GS3 *Solo*.

### Hearing is believing.

We've written a lot of words about GigaStudio 3.0 because it is so radically different from — and dramatically better-sounding than — any other sampling program. But all of our prose doesn't equal a quick demo of GS3 at your TASCAM GigaStudio dealer.

Because it doesn't take a "golden ear" to hear just how realistic Giga libraries sound. Whether you use a Steinway piano, a '57 Strat or a Turkish oud as your criteria, you'll instantly hear the GigaStudio difference. ■

**TASCAM**®

**GIGASTUDIO™ 3.0** The world's most powerful sampler has just gotten better! Now available in **Orchestra, Ensemble and Solo versions**, the **GS3 paradigm has undergone a complete overhaul with new GUI and the added functionality of ReWire, VST FX, and a new GigaPiano 2. The GS3.gig sample format has received a from-the-ground-up redesign with 24-bit/96kHz support, 128 dimension controllers, support for embedded surround convolution and the addition of Intelligent MIDI rules. Welcome to the world's most advanced, disk streaming, real time surround convolving, ReWired sampling solution on the planet.**

