TASCAM GigaStudio 4 iMIDI Programming Tutorial

TASCAM's **GigaStudio 4** includes technology that can take classic libraries and give them new life without knowing how to write a computer program. Here's an example that takes an older library, SAM Horns from Project SAM, and refreshes it with new features.

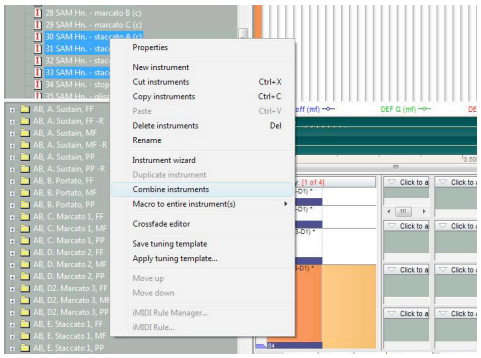
Round-robin Programming

One of the biggest giveaways that you're listening to a sample is the "machine gun effect" of a repeated note. We're going to create an instrument that automatically cycles between four samples when you repeat a note so that it sounds like a real player.

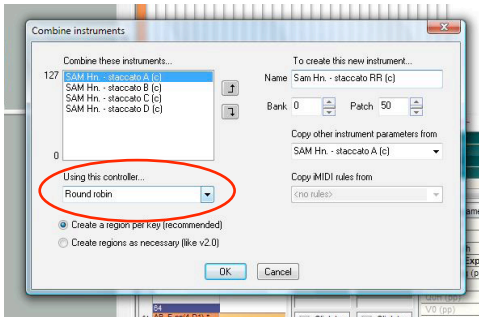
1. Open the instrument in GigaEditor. You can do this by double-clicking it in the Windows Explorer, or open Programs > TASCAM > GigaEditor and open the file. If you have the library and want to follow along, I'm going to edit "SAM Horns 3 Main (close)."
2. Go to File > Save As and save a new copy of the instrument. This way you'll always be able to go back to the original.
3. Even those the instrument is open in the Editor, you need to load it if you want to hear what you're doing. Press the Load button in the top left corner of the toolbar.

The green "Loaded" light will turn on when the instrument is loaded. GigaEditor follows the GigaStudio hardware setup, so you should be able to play your MIDI keyboard and hear what you're doing.

4. This library has four staccato samples: a, b, c, and d. You can click each one in the left side pane to hear them. Shift click all four to select them, right click one of the samples and select "Combine Instruments."



5. A new window will open up. In the bottom left pull-down menu, select "Round Robin" as the method to switch between samples. You should also give this instrument a new name in the top right field, such as "SAM Hn. - staccato RR (c)."

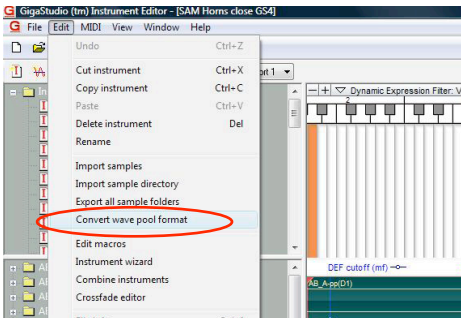


6. Your new round-robin instrument will appear at the bottom of the instrument list.
7. Try combining other instruments into stacks. For example, combine your new round-robin staccato instrument with a marcato instrument, this time using the mod wheel as the switch. Now you can play phrases that combine short and long notes, using the mod wheel to switch between them.

Smoothing Dynamics with DEF

One of GigaStudio's secret weapons is the Dynamic Expression Filter, or DEF. This filter "fills in" the dynamics between your different samples, so that instead of stepping through soft, medium and loud samples you get a smooth swell. Here's how to add it to our horn library:

1. The DEF filter technology only works with 24-bit samples. Fortunately there's a simple way to convert this library to 24-bit. Click on the Edit menu and select "Convert Wave Pool Format."



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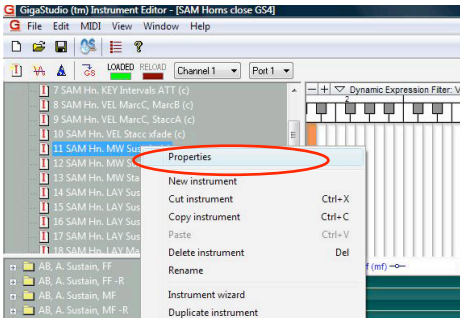
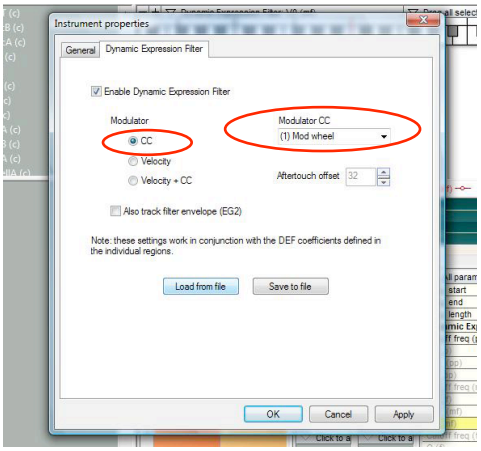
2. Select "24-bit, Integer" in the Convert Wave Pool window and click Convert. You can select "24-bit, Max accellerated (18-bit)" for better performance once the library is converted to 24-bit. You should save your work at this point.
3. Right-click the instrument that you want to add DEF to, such as "SAM Hn MW Sustain (c)" and select Properties.



4. Click on the Dynamic Expression tab. Enable the filter and set the modulator to CC / Mod Wheel.

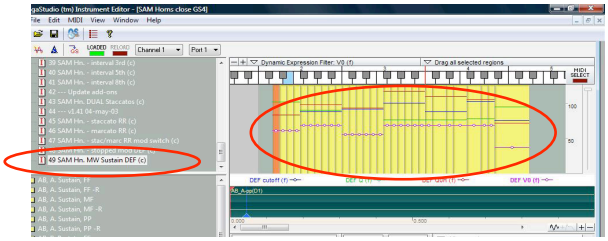


5. Next, click the "Load from File" button. GigaStudio 4 installs a number of filter presets to give you a starting point for your library. These are located on your hard drive at:

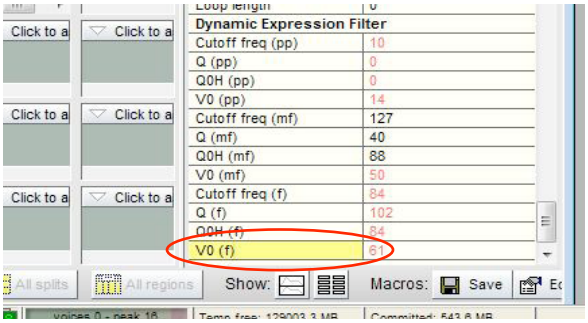
   /Program Files/TASCAM/Giga/profiles/Dynamic Expression

   For this horn library, we're going to start with "DEF_Ensemble Brass."

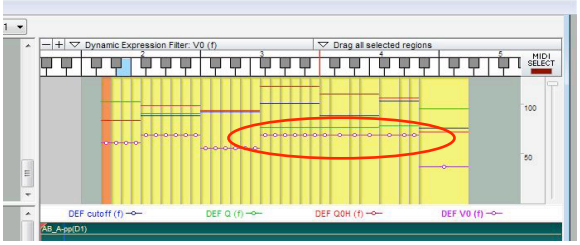
6. When I applied this filter preset to SAM Horns Sustained, the gain was way too hot and the sound distorted. The labels for the filter parameters are a bit arcane, but not too difficult to figure out. First, make sure your instrument is selected in the list on the left. Then click and drag across all of the sample regions so that they turn yellow to select them all.



7. In the parameter list on the bottom right, scroll all the way to the bottom of the list to see the Dynamic Expression Filter parameters. Click the very last parameter in the list, labeled "V0 (f)"



8. When you move the mod wheel up, the volume will track from V0 (pp) at the bottom, to V0 (mf) in the middle, to V0 (f) at the top. Since the volume is too high at the top of the travel we need to reduce the value of V0 (f). Move your cursor over the pink dots in the top display and drag them down to reduce the volume.



You can also play with the filter Q (f) to adjust the "resonance" for less bite at the top of the travel. Try adding DEF to your piano and percussion libraries too, using velocity.

I'm out of space, but there's much more about DEF and the other iMIDI features in the GigaEditor Manual.