

GARRITAN Bugs and Fixes

Here is a list of ‘errors’ and problems in the the SFZ files of GIFF and GPO5 instruments. Ideally, it would be great if MM would fix them (and even revise and update the Garritan libraries...). But in the mean time, the problems and the fixes are listed below. As ever, before making any alteration to a file of this kind, please make sure you can revert to the original, if things go wrong.

Include *include*

This doesn’t cause any problems YET, but there is a folder within GPO5’s instrument definitions (under the “Instruments” folder of wherever your GPO5 files are) called `Include`, with a capital I. However, the SFZ instrument files reference filepaths under this folder using the lower case `include`. At some point in the future, this may matter — if you’re using a case-sensitive file system, for instance.

Oboe d’amore: GIFF and GPO5

Bug: B3 and C4 sample has incorrect loop point, causing popping. (Hold the note down for a while until the loop kicks in to hear the problem.)

Fix:

1. Open the `Oboe d’Amore Solo.sfz` file in a text editor.
2. Alter line 126 with correct loop data.

Current line is:

```
<region> lovel=1 hivel=127 lokey=59 hikey=60 pitch_keycenter=60  
amplitude=100 tune=0 loop_mode=loop_continuous loop_start=140796  
loop_end=147402 sample=0boeDAmorC4_0001102C.audio
```

replace `loop_start` and `loop_end` with these values: `loop_start=141157` `loop_end=145721`

(These values taken from line 198, which references the same audio file.)

Timpani: GPO5

Bug: Ignoring the fact that *Timpani 1* points to an instrument file called *Timpani 3* (and vice versa), and that the audio samples for *Timpani 1* are in the “Unpitched” subfolder, the sustained Rolls for *Timpani 1* are in the wrong octave.

Fix: Change line 562 from `octave_offset=-1` to `octave_offset=-3` in `Timpani 3.sfz`.

The tuning values and volume settings could also be improved throughout.

The mix-up over *Timpani 1* and *3* also affects the Documentation, which incorrectly states that *Timpani 3* has the sustained Rolls.

Timpani: GIFF

The tuning on Timpani KS is poor, and can be improved by adding `group_tune=-101` to groups 1 and 2 in the SFZ file. Note that for some reason, the GPO5 Timpani SFZ file is also installed with GIFF, but not used.

GPO5: Missing controls / UI problems

Several UI problems in the ARIA Player.

1. The AUTO-LEGATO text over the CC102 switch is clipped.

Fix: in `../GUI/toggle_legato.xml`, change line 5 from `w="75"` to `w="80"`.

2. Many of the instruments added to GPO5 have CCs for Stereo Stage, but no GUI dials in the ARIA Player.

Using the Brass as an example: the relevant GUIContainer XML file can be added to `brass-legato.xml` and `n-brass-legato.xml`. This also requires some adjustment of the position of the Mute button.

Fix: The following lines:

```
<!--MUTE -->
<GUIContainer path="toggle_mute.xml"      xoffset="113"      yoffset="210" />
```

should be replaced with:

```
<!-- STEREO STAGE -->
<GUIContainer path="stereo-stage.xml"      xoffset="50"      yoffset="210" />
```

```
<!--MUTE -->
<GUIContainer path="toggle_mute.xml"      xoffset="320"      yoffset="230" />
```

in the file `n-brass-legato.xml`, and with:

```
<!-- STEREO STAGE -->
<GUIContainer path="stereo-stage.xml"      xoffset="127"      yoffset="210" />
```

```
<!--MUTE -->
<GUIContainer path="toggle_mute.xml"      xoffset="350"      yoffset="230" />
```

in the file `brass-legato.xml`.

Similar adjustments need to be made to the GOS Strings UI xml files, the Choirs, and others.

Choirs: GPO5

Bug: The ranges for the Basses KS and Tenors KS are risible. Basses only go up to an A below Middle C (!) and Tenors only to an F above that!

Fix: There are some unused Tenor samples, covering higher notes up to 068, which have been commented out of the Aah Map SFZ file. They seem to work better than no sound at all! The Bass Maps could possibly ‘borrow’ samples from the Tenors. Otherwise, the sample ranges can easily be extended just by adding lokey, hikey and pitch_keycenter values for the highest sample.

However, in my opinion, the Full Choir KS sample is better for all voices.

Other instruments

with limited ranges are:

GIFF, GPO5: *E-flat Clarinet* (low note is currently G3, should be E3.)

GPO5: *Timpani 2* is missing a fourth off the top, compared to the other two Timps.

GIFF: *Tuba Solo* low range is missing a fourth compared to other Tubas.

Bear in mind that ARIA Player is taking an audio file at one pitch and digitally manipulating it to play at a higher (or lower) pitch, and there are limits to the realism...

Piccolo Trumpet: GPO5

Bug: The “Non-Vib” instrument includes a control dial for VibSpeed CC17, and the “Vib” instrument does not have the dial (which it could use). Further investigation shows that the SFZ file of the NON Vib instrument has all the CC17 instructions, but using the Nonvib samples; and the Vib instrument has no CC17 instructions, but uses the Vib samples.

Fix: In the Bank XML files, change the GUI file from Brass1.xml to Brass2.xml, and vice versa for each instrument. (For Notation bank, use n-Brass1.xml, for Standard, use Brass2.xml.) Of course, the SFZ files will still need the codes for responding to CC17 in the Vib instrument. Better to just use the KS version, except that:

Bug: The KS version of the *Piccolo Trumpet* in the Notation bank seems to be ‘stuck’ on Non Vib when used in ARIA Player. Don’t know why it doesn’t work, but simply changing the switch values to start at 48, instead of 36, fixes it. However, the instrument seems to be triggered correctly in software with or without this modification.

Custom Organ Console: GPO5

The switches for the organ stops (**CC70 - 81**) should trigger either side of a CC value of 63/64 (as stated in the manual), but they trigger ON at any value higher than 0 (e.g. anything not 0 is ON). Currently, it’s possible to send a value of, say, 10 to **CC70**, which will trigger the OFF switch in the ARIA display, but won’t actually turn off the organ stop!

You will find lots of lines in the Custom Console.sfz file like this:

```
locc70=1 hicc70=127
```

which should be changed to:

```
locc70=64 hicc70=127
```

(also for locc71, locc72, etc... locc81.)

Another curiosity is that the mixers are set to **CC36** through **CC81** — except for **CC38**, which is not used for some reason.

Pianos: GIFF, GPO5

Bug: No Soft pedal.

A major omission in GIFF/GPO5 is the lack of a Soft pedal for any of the piano samples. As the Concert D Steinway in GPO5 is a re-mix of the old *Authorized Steinway Virtual Grand Piano* Garritan product, then there should be source material to create the necessary audio files. However, in their absence, a 'quick fix' can be effected by applying an EQ filter to the audio (based on the muting for the Orchestral Strings!).

Fix: Add the following around line 104 of the Steinway Concert D.sfz file, under the <global> tag and before the first <master> tag:

```
eq1_freq=1577
eq1_bw=2.95556
eq1_gain=0
```

```
eq2_freq=10031
eq2_bw=2.92
eq2_gain=0
```

```
//Switch Engage
eq1_gain_oncc67=-10.72
eq2_gain_oncc67=-5.04
```

Similar amendments can be made to the other piano instrument files. If not perfect, this does give some change of timbre rather than nothing at all.

Aftertouch?

ARIA Player uses a 'pseudo-CC' CC129 to represent Aftertouch. I'm not sure how useful this is in a Notation set of instruments. Using a real CC would allow aftertouch to be manually controlled more easily in software.

Vestigial Material

There remain quite a few instrument definition files that are not 'plumbed in' to the Instrument Banks. There are also some sample files that are unused by any instrument, such as an 'incomplete' Stradivarius Solo violin, which would be nice to see completed.

The Case for Sharing Edited Files

It would be useful to know if MM would approve or disapprove of users sharing their own edits of the existing SFZ files — perhaps hosted somewhere like Github?

The MakeMusic Help Center has an article about editing instrument ranges in Garritan sample libraries. <https://makemusic.zendesk.com/hc/en-us/articles/218212707>

It begins:

Garritan libraries use the ARIA Player, which loads instruments based on audio samples and SFZ files. While the audio samples are proprietary, the SFZ file format is a free format that can be edited.

Arguably then, SFZ files are user configuration files. By themselves, without the accompanying encrypted sound files and the user licence token, they do not provide any benefits or utility, except to registered (paying) users of Garritan products. It is hoped that MM would therefore not object to a small amount of its content being modified, shared and posted online.

Thanks

I have trawled the internet for forum posts discussing Bugs and fixes to GPO and GIFF. Particular hat-tips are made to 'SysExJohn' and Brian Roland.

Ben Byram-Wigfield

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