KRAWALL
Musician's Guide

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1 Samples

Eliminate each sample's DC-offset and make sure their starts (and endings for one-shot-samples) are smooth. For speed-reasons Krawall doesn't do volume-ramping so if you have samples that have a sharp start or end you might want to fade in/out the first few samples (16 samples should do). If you don't take care of this there might be audible clicks in playback.

Normalize your samples. We're in 8bit, we must use every single bit available.

Krawall eliminates samples you use redundantly across tunes. For this to work ALL sample's settings must be equal: default volume, C2Freq (called relative note and finetune in XM) and loop-settings, the name doesn't matter.

In XM's you can use the same sample for more than one instrument (it will be redundant in the XM itself): as long as the sample-settings are the same Krawall will optimize these out, too.

If you record samples yourself be sure to do that in 8-bit already, downsampling from 16 to 8 bit usually introduces a lot of noise.

Krawall's default replaying frequency is 16kHz. It doesn't make sense to have your samples recorded at a higher frequency.

If you choose to have a few samples replayed interpolated then you must

prefix these samples names with a $\sim$. In S3M's you must prefix the field called 'filename' and in XM's you must prefix the normal samplename. Remember that replaying a sample interpolated takes more CPU-time.

2   Instruments

Only use envelopes where it actually benefits to the tune's quality. It's generally not a good idea to have a wild volume and panning-envelope on every instrument because it a) usually doesn't sound good and more importantly b) wastes CPU-time.

Be careful with envelopes that change volume or panning rapidly. It might cause clicks.

3   Panning

As mentioned in the developer's documentation channels that are panned far left or right use the least CPU-power to calculate. So pan channels far left/right where you can.

This is the ranking of the panning-positions. The higher the place, the less CPU-time it uses.

1. Far left/right

2. Centered

3. Arbitrary panning-position

4. HQ Far left/right

5. HQ Centered

6. HQ Arbitrary panning-position

Now you don't have to be afraid of using arbitrarily panned samples or sample-envelopes cause it's not a big deal for a few channels. But it does make a big difference (CPU-wise) if an 8-channel tune has all channels panned arbitrarily or if it has them all panned far left/right. Believe me, your coder will be thankful for a few extra % of CPU-time.

4 Volumes

Always track as LOUD AS POSSIBLE. In 8bit it can really sound awful if you have low volumes, especially in arbitrary panning-positions.

Therefore have LOUD samples (normalized and loud default volume) and LOUD global volume. If a tune is too loud or distorts when being replayed you can always reduce the volume but it's hard to artificially increase the volume later on. And if you have very silent parts then keep the channels either far panned out or centered, otherwise (as mentioned) you will introduce a lot of noise.

5 Trackers

There are lots of trackers available. However the free "ModPlug Tracker" (for Win32) might be the tracker of your choice. In the "Tracker Handbook" mentioned below is an extensive listing of trackers available.

6 Final words

Keeping this few simple rules in mind will definitely increase the quality of your tunes.

Another thing to remember is that you as a musician will probably compose on Hifi-equipment and always use headphones to listen to your tunes on the GBA. But don't forget that many people don't use headphones and the sound will only come out of the trashy piezo-speaker. So make sure your music/sfx sounds OK out of that as well.

One last thing: No matter if a pro or a novice in tracking, you might want to read through the "Tracker Handbook" located at
http://www.united-trackers.org/resources/handbook/.

Have fun composing,
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