A Comparison of
Cinematic Scoring Packages for
Orchestral Sketching
and Mock-ups

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Introduction

There are numerous options these days for creating orchestral virtual performances on the computer with more and more scoring packages and sample libraries becoming available almost weekly.

To create an outstanding orchestral virtual performance is an art-form in itself requiring many more hours orchestrating and tweaking MIDI performance than the actual time it takes to compose the music. The goal of this comparison will be to compare some of the sample libraries that can be used to create large orchestral compositions.

My personal goal is to experiment a bit with various programs and sample libraries to see which ones are best for me for doing quick sketching and mock-ups (then the other aspect of creating acceptable virtual performances for production will be considered later).

My interests are in music for film and particularly video productions on very small budgets and perhaps some of this comparison can come in handy for making decisions on tools to use in this area.

I tend to write in notation packages, which presents serious problems for creating acceptable virtual performance. While most of today's notation packages (Finale, Sibelius, Notion, etc) can use sample plug-ins from high end libraries, there are two big limitations: 1) Loading up a full orchestral score in a notation package using large plug-ins can quickly exhaust memory before all voices are loaded (which can also cause serious playback issues) and 2) Notation packages do not in general allow the fine, easy to use MIDI control that a sequencer/DAW does (Like Cubase, Pro Tools, Sonar, etc). Sequencers also tend to be more memory efficient than notation programs.

The most common option for those interested in writing in a notation package and creating large virtual performances is to use the notation package for the sketching (which normally come with sample libraries that take less space and thus allow playing full orchestral scores) and then exporting to MIDI and loading MIDI files into a sequencer to do production work (where is also easier to record sections of the piece to audio if memory issues raise their ugly head). This also applies to the many pre-and post processing plug-ins that normally need to be used with high end sample libraries to get the best sound (EQ, reverb, compression, etc). Putting pre and post processing reverb on all voices in a notation program can quickly bog down your computer and you'll start hearing drop-outs, crackling, etc. Even with a sequencer, you may have to record your large orchestral virtual performance in sections and the mix it in the Sequencer/DAW.

This comparison will for the most part use notation packages as the recording and playing engine (but will also use the sequencer for some comparisons). There are many such notation-program generated performances being put on IMSLP (and other sites storing audio files - sound cloud, etc) and hopefully this comparison will give some information useful for those that want to post virtual performances of their pieces.

Finally while the notation packages are ok for sketching and mock-ups, the user really has to play lines in if they want a human feel. This may have a bit less importance in a huge score than an intimate piece, but if you can play voices in (even some), you should. And adding a few real instruments into a mix can also greatly increase the feeling of a real performance. Most notation packages will let you play lines (but they may quantize out the nuance of the performance – and if you don't quantize, the notation may look garbled). Another reason to use the sequencer, where you are not really interested in notation when you are creating the virtual performance.

The first set of comparisons use a rather over-the-top, stereotyped "Epic-style" sketch of a couple minutes emphasizing both full orchestra and various sections. I'll leave solo comparisons for another project. The piece is not intended to be a unique musical statement – it was written to test cinematic performance.

I've posted the full orchestral score as well as other versions geared for some of the packages discussed (such as the Garritan's Instant Orchestra score – see below).

Also note that I have nothing to do with any of these companies and I am not trying to create a comparative review or debase any of these products. All of these tools have their place and value. You'll have to decide what is right for you and there are numerous examples on the web-sites of each of the products discussed if you want more samples of what the packages can do.

Garritan Instant Orchestra

The Garritan Instant Orchestra (IO) Sample Library is a very interesting and some may find extremely useful package. Similar to a few other products out there, IO gives you pre-packaged sections, articulations, special effects, textures, and other easy to use patches to construct pieces out in a rather building block-like fashion - but at a fraction of the price of similar high end sample libraries (but of course there is an element of "you get what you pay for" involved as well).

This product is geared for people who either don't know much about orchestration or who don't want to take the time to fully orchestrate - for producing cinematic orchestral sketches, demos or mock-ups (not to say you can't create final performances with this as it's also intended for folks who want to easily add soundtracks to their videos).

Instead of writing individual parts for a full brass section for example, they give you brass patches and you can use those wherever you need brass (just write your chords or melodic material using the desired brass patches). You don't select Horn, Trumpet, Trombone, Tuba, etc. as the patch in theory figures out what is needed by the range used. You also don't think about individual instruments in a section. The thinking behind IO is that people who don't know how to orchestrate will more easily think in terms of brass, woodwinds, strings and percussion than think about 20-30 different instruments. Also instead of worrying about range, they give you patches for unison doubling, octave doubling, etc.

IO is meant to be played through the Aria player which includes a range of convolution reverbs and mixing controls (the other Garritan sample libraries also use the Aria engine). Another aspect of the library is that the sounds are geared for movie/video production to begin with - at least that appears to be Garritan's intent in the marketing. What this means is that there is a level of reverb and production on the samples geared for cinematic-like sound.

This projected started with the testing of Garritan IO. I thought I'd experiment writing a totally over the top, stereotyped movie-like score fragment to test IO, throwing orchestration concepts somewhat to the wind (well you can't totally forget about them). I just wrote a few melodies and simple harmonies and doubled them in various ways without much thinking of traditional orchestral technique (see IO score posted). Not much counterpoint - just simple-minded and rather messy orchestration.

I wrote the piece in Notion (but you can use Finale, Sibelius and even better sequencers where you can play Aria as a 16-channel MIDI instrument and you can load up multiple sets of these 16- channels to create a very large score). I used about twenty IO patches each installed as its own Aria instrument plug-in (so the mixing is done through Notion,

not Aria). Though some of the individual sounds are a bit lacking to my ear, I was surprised how easy it was to use the sounds in combination. If something did not sound right, I just added another voice and doubled it with another patch. Not doubling in the normal orchestral sense – just adding in patches on top of each other that use the built-in doubling content of many patches. Because they are geared as sections, some of the patches did not match the range I expected (that's something you'll have to experiment with).

I may well add this to my sample arsenal for quick sketching and mock-ups where time is of utmost importance. Frankly, for less than $200, it's hard to match this if you are starting from ground zero and don't have thousands of dollars to spend on high end sample libraries and you want to write music for a videos and you don't want to spend all your time orchestrating. Just remember you will need something to generate the music (notation program, sequencer, etc) to use IO. Because it's from the same company that sells Finale, it appears to integrate well with that, automatically loading up the Aria player when selecting IO patches in Finale.

To give you an idea of the impressive content of this package for the very modest price, here is the list of IO instruments, textures, effects and presets (a rather stunning collection of sounds for less than $200):

BRASS INSTRUMENTS

Big Brass Aggressive, Big Brass Aggressive Octave, Bones Attack, Easy Brass Chords Sustain, Easy Brass Short, Easy Brass Soft Sustain, Full Brass Octaves, Full Brass Octaves Aggressive, Full Brass Octaves Soft Attack, Full Brass Unison, Full Brass Unison Aggressive, Horn Clusters and Rips, Low Brass, Organic Brass, Snappy Brass, Trumpets Attack, Tuba Clusters, Various Brass Clusters, Wagner Brass, Wagner Brass Soft Attack

CHOIR INSTRUMENTS

Cathedral Orchestra 1, Cathedral Orchestra 2, Ethereal Orchestra 1, Ethereal Orchestra 2, Full Choir, Full Choir Octaves, Full Choir Show, Horrid Choir, Silvery Choir, Silvery Choir Octaves

EFFECTS PATCHES

Chaos Orchestra 1, Chaos Orchestra 2, Full Brass Chaos, Full Strings Short Chaos, Full Strings Sustain Chaos, Full Winds Short Chaos, Full Winds Sustain Chaos, Orchestra Chaos Effects 1, Orchestra Chaos Effects 2, Orchestra Chaos Effect 3, Orchestra Cluster – Unison, Orchestra Cluster – Unison Fast, Orchestra Effects 1, Orchestra Effects 2, Orchestra Gliss Down Major Third, Orchestra Gliss Down Minor Third, Orchestra Gliss

Down Octave, Orchestra Gliss Down Octave Rapid, Orchestra Gliss Down Rapid, Orchestra Gliss Octave Fall, Orchestra Gliss Race to Unison, Orchestra Gliss Up Down Minor Third, Orchestra Glis Up Down Rapid, Orchestra Gliss Up Major Third, Orchestra Gliss Up Minor Third, Orchestra Gliss Up Octave, Orchestra Gliss Up Octave Rapid, Orchestra Gliss Up Rapid, Weirdness

HARPS AND HARPS EX

Harp Glisses Augmented Sweeps, Harp Glisses Diminished Sweeps, Harp Glisses-Major-Minor-Diminished-Augmented Sweeps, Harps Glisses Sweeps Major-Minor, Harp Glisses Down Augmented, Harp Glisses Down Diminished, Harp Glisses Down Fast, Harp Glisses Down Major-Minor, Harp Glisses Down Medium, Harp Glisses Down Rapid, Harp Glisses Down Whole Tone, Harp Glisses Up Whole Tone, Harp Glisses Up Diminished Whole Tone, Harp Glisses Up Diminished, Harp Glisses Up Fast, Harp Glisses Up Medium, Harp Glisses Up Rapid, Harp Glisses Up Whole Tone, Harp Glisses Whole Tone Sweeps, Harp Plucks, Strummed Harp Chords

KEYBOARD INSTRUMENTS

Celesta, Full Organ, Harpsichord, Piano Super Light, Scary Piano FX, Spacey Piano and Orchestra

MIXTURES

Baroquestra, Baroquestra 2, Delicate Orchestra, Delicate Orchestra and Harmonics, Easy Orchestra Chords Short Full, Easy Orchestra Chords Short Hit, Easy Orchestra Sustains (2 versions), Easy Orchestra Tremolos (2 versions), Easy Strings and Winds Sustains, Evolving Orchestra (2 versions), Full Orchestra, Full Orchestra Portato, Full Organ Orchestra (2 versions), Lush Full Orchestra Octaves (2 versions), Lush Orchestra Double Octave Winds, Lush Orchestra Octaves and Choir, Natural Brass and Winds, Orchestra Power Hits, Overlayer Orchestra, Slow Orchestra (4 versions), Soft Winds and Brass, Soft Winds and Brass Slow, Strings Winds Double Octaves, Supernatural Orchestra, The Big Chord, Wagner Orchestra

PERCUSSION INSTRUMENTS

Cymbals, Cymbals Extras and FX, Deep Space Percussion, Earth Cavern Percussion, Earth Drums (3 versions), Earth Metal Percussion, Orchestra Percussion Set (2 versions), Percussion Extras, Percussion Toys, Snare and Rolls, Timpani, Timpani 2 and Rolls, Timpani FX, Timpani Rolls

PITCHED PERCUSSION INSTRUMENTS

Bowed Crotales, Bowed Crotales Rapid, Bowed Vibes, Bowed Vibes Rapid, Bowed Vibes and Crotales, Glockenspiel, Glockenspiel Alternating Strikes, Marimba, Marimba Alternating Hits, Marimba Rolls, Vintage Sci-Fi Bowed Percussion, Vintage Sci-Fi Bowed Percussion Rapid, Xylophone, Xylophone Alternating Hits, Xylophone Rolls

STRING INSTRUMENTS

Full Strings (Violins, Violas, Cellos, & Basses) Alternating Bows Short Attack, Full Strings Alternating Bows Short Attack Release, Col Legno Full Strings, Double Octave Full Strings, Easy Pizzicato Strings, Easy Short Bow Strings, Easy Sustaining Strings, Easy Tremolo Strings, Full Strings Lush Sordino, Full Strings Sordino (2 versions), Full Strings Sustain (3 versions), Full Strings Sustain-Alternating Short, Full Strings Tremolo, Harmonics Double Full Strings, Harmonics Octave Full Strings, Marcato Sharp Attack (2 versions), Marcato Sharp Attack and Martele, Marcato Strings Alternating Bows, Martele Full Strings, Martele Octave Full Strings, Octave Strings, Octave Strings Largo, Pizzicato Full Strings, Pizzicato Loose Full Strings, Portato Strings, Portato Attack Strings, Portato Octave Strings, Portato Octave Attack Strings, Snap Pizzicato Full Strings, Solo Strings Octave Overlays, Solo Strings Sordino Overlays, Sordino Soft Full Strings, Strings Harmonics, Strings Harmonics Octaves, Strings Harmonics Slow, Strings Tuning and FX Looped, Trills Half-Step Full Strings, Trills Whole-Step Full Strings, Vibrato Espressive Full Strings, Vibrato Extreme Full Strings

WOODWIND INSTRUMENTS

Clarinet Clusters, Clarinet Winds, Clarinet Winds and Attack, Easy Winds Short, Easy Sustaining Winds, Flute Clusters, Flutes & Clarinets Clusters, Full Winds, Full Winds Octaves (2 versions), Full Winds Soft Attack, Full Winds Soft Attack Octaves, Full Winds Unison, Oboe & English Horn Clusters, Octave Winds Mix (2 versions), Reedy Winds, Reedy Winds Attack (2 versions), Silvery Winds, Silvery Winds Attach (2 versions), Various Wind Clusters

BLENDING TEXTURES

Baroquestra – Harp Orchestra, Big Brass Octave – Full Winds, Brass Chaos – Brass Unison, Choir – Wind Brass, Clarinets – Silvery Winds, Complete Orchestration, Delicate Orchestra – Ethereal, Easy Strings – Brass – Winds (2 versions), Easy Tremelo Strings – Brass – Winds (2 versions), Evolving Orchestra, Full Strings – Full Choir, Full Strings – Soft Winds Brass, Full Strings Vibrato Control, Full Strings – Winds (2 versions), Horrid Choir – Unison Choir, Lush Octave Orchestra – Orchestral Overlays, Full Octave Strings – Harmonics, Full Octave Winds – Organic Brass, Organic Brass – Wagner Brass, Reedy Winds – Clarinet Winds, Silvery Choir – Octave Choir, Silvery Winds – Clarinets, Silvery Winds – Reedy Winds, Sordino Strings – Cathedral Choir, Sordino Strings Soft – Lush, Sordino Strings Soft – Lush Octave Orchestra, Strings

Chaos – Strings Unison, Strings – Choir – Winds – Brass, Strings Soft – Expressivo, Strings Soft – Strings Vibrant, Tremolo Strings – Winds, Tremolo Strings – Winds – Brass, Full Brass Unison – Octave Brass, Vibrato Strings – Winds, Winds Unison – Sordino Strings Overlay

ENSEMBLES PRESETS: COMBOS & EFFECTS

Becoming Grand, Big, Control Your Chaos (4 versions), Drunk Orchestra, Super Drunk Orchestra, Easiest Chord on the Planet, Eerie Choir, Eerie Moves to Tonal, Evolution (2 versions), Expressive Silk Strings, Gentle Orchestration (3 versions), Ghost Ship, Gigantic Metal Environment, Grand Cathedral, Grandness or Darkness, Horrid Finds Its Way (2 versions), Huge Orchestra and Choir, Infinity MW, Instant Attack, Instant Gratification, Instant Octave Hugeness, Like A Pad, Lots of Snares, Many Timpani, Mixing Winds, Moving Full Strings, Movings Strings and Choir, Multi Grand, Octave Orchestra Thick, Pad Is All You Need, Panning and MW Wowsers, Percussion Fun (2 versions), Percussion Wow (2 versions), Pitched Percussives, Phasing Winds Sord Blend, Reedy Cathedral, Short Orchestra, Short Power Orchestra Octaves, Short Power, Slow Rise Slow Fall, Soft to Loud Orchestra, Soothing Plucks and Hammers, Spaced Out Piano, Super Vibrant Strings, Traveling Cathedral Choir, Traveling Ethereal, Tremolo Strings to Vastness, Trill Exchange, Unison Orchestra Soft, Unison Orchestra, Vaughan Williams, Vibrato to Full, Wonders of Blending, Wow Lots of Noise, Wowsers Piano Effect

ENSEMBLE PRESETS: MOODS

Angels or Demons (2 versions), Approaching Warrior, Baroque Court, Big Chord Score, Chaos Abounds, Deep Space Exploration, Discovering Avalon, Discovering Vastness, Enchanted, Epic, Evolution (2 versions), Falling Power, Full Score (2 versions), Ghost Ship, Grand Cathedral, Grand Melody and Chords, Grandness or Darkness, Heavenly, I Am Dreaming, Infinity and Beyond, Infinity, Instant Cartoon, Journey Out To Sea, Little Ones With Wings, Lots of Noise, Magic of a Child, Majesty, Otherworldly Blending, Pitched Percussives Alternating String Bows, Playful Sinister, Psycho, Red Planet, Scary Moments, Something Is About To Happen, Splatty Ostinatos, Sweeping Melodies, The Jungle, Unrealistic Reality, Wonderful Evening

Notation Packages

The major notation packages all come with built in orchestral (and some jazz, marching band, pop, etc) libraries. These as noted above are typically of a much smaller size with less features than the high end sample libraries, but that smaller size lets you load up very large orchestras in the notation packages for getting a feel for how the music sounds. The main issue is that when you load up a lot of instruments, you can easily get a very over-saturated sound in the notation packages and not as much dynamic variation and articulation as you want, especially depending on how much reverb you add. In general the more cinematic sound has a higher reverb level, and this masks a lot of the articulations as you increase the level.

The Epic-Score Test (which was originally written in the pseudo-orchestral format geared for IO above) was redone in the notation package as a full/standard orchestral score played by the indicated instruments in the notation package. As many people are posting scores created with Finale and Sibelius, I will create three versions of the Epic-Score test for comparison (Notion4, Finale 14 and Sibelius7). Note that you can not use the same score for each as the dynamic values use by one notation package will not be the same for others. So the dynamics and maybe articulations need to be customized for each version of the score (and thus the dynamics and articulations in a virtual score will have to be re-adjusted if you are creating the score for a real orchestral performance).

Notion uses its own sound sample set (which you need to buy extensions for to get all instruments). The current Notation packages use close-mic position instruments so the sound tends to be more bright and in your face. I used the reverb that comes with each notation package in the comparison files instead of adding a high end convolution reverb on the output. It should be noted that Notion is more a product for playing. Its notational capabilities are not close to the sophistication of Finale or Sibelius. It has many less features, but it also for me is much easier to use (maybe in part due to its simplicity) and faster to write in.

Finale uses the Garritan Personal Orchestra library (modified slightly for notation performance) and also comes with Garritan Jazz and Big Band sounds. The current version of Finale includes a very large orchestral palette. The brass to my ears has a bit more substance than Notion, and Notion's winds tend to have more punch than those in Finale (but all this can be compensated to a large degree by changing the mixer settings of each instrument). Finale's playing engine seems to track a bit better than Notion for large scores (they've been around a lot longer to perfect the product). Frankly, as can be expected, there are things I like in Notion and other things in Finale and Sibelius.

Sibelius, like Finale, comes with a complete orchestral sound library (not surprising as these two products are the two main competitors in the notation field). The Sibelius version of the piece seems a bit distorted at the similar dynamic levels (and took very much longer to load sounds than the other two packages). Not sure the player handled the large score well, but Sibelius percussion comes through the best by far over the large sound (and to my ears has the best sound). Percussion in Finale is weak and has to be

raised to unnatural mixing levels to come through or the whole mix has to be reduced. I tried to keep similar mixing levels, but had to adjust each in numerous places to get an acceptable sound. I should go back and adjust levels down more in the Sibelius (and some instruments like the piano really cut through and had to be significantly lowered).

All sample libraries have different dynamic and harmonic content so you will never be able to just change samples to different libraries without doing a lot of remixing and level adjustment (and in notation programs dynamic and articulation adjustment).

Fortunately, all three programs come with mixers that let you easily adjust levels and instrument panning and let you insert VST processing if you need to.

Notion Mixer:

Finale Mixer:

Sibelius Mixer:

All three packages can load external sample library plug-ins, but this sample comparison uses the default sounds that come with each package. Note that some notation programs (especially Sibelius) have expression maps available for different sample libraries (such a VSL and East West) allowing you to more easily use them with the notation program.

In short the notation programs all have their pros and cons. Finally, I should say that I have been using Notion almost exclusively for a couple years now and do not use Finale and especially Sibelius that much anymore, so this comparison is a bit jaded towards Notion because my ear works in it at this point. I am sure with a lot more adjustments, both the Finale and Sibelius versions could be made to sound better. But I think you get the general idea of the basic sound of each in a large cinematic (sound saturating) example.

To be continued… (Symphobia will be the next comparison after the Sibelius version is added)