A Comparison of Sampled and Synthesized Pianos for Computer-Generated, MIDI-Based Performance

Richard Kram

INTRODUCTION

This monograph is intended to give a bit of backup information for the sampled and synthesized piano examples posted on the associated IMSLP piano comparisons page. The goal is to compare MIDI output from various sources imported into a sequencer playing an assortment of sampled and synthesized pianos (since my interests are in computer-generated, MIDI-based performances, primarily of classical and program music).

Piano libraries can widely vary in both sound quality, features, programmability and type of sound (for example some piano libraries are intended more for use as solo instruments and some are specifically geared as instruments designed to sit well in an orchestral mix. Some are more geared for pop music and some for more general use. A good piano sample library typically is in the $200-$500 range but there are also various piano sample sets that are part of larger packages that can be very cost effective given all the other instruments that are included. However, in general, the best sampled pianos are stand-alone libraries.

There are many more piano libraries and synthesized instruments available than will be presented here and if someone wishes to use the MIDI files posted to include pianos not in this set, please feel free to post them. I will be including a number of well known products: VSL Imperial, East West Quantum Leap Pianos, Ivory II Grands and a number of pianos specifically intended for the NI Kontakt player. I will also include a number of synthesized pianos by Yamaha, Kurzweil, Korg, Technics, Roland and other manufacturers (some for historical purposes).

First, a few words about comparing piano libraries. I could spend my whole life tweaking each piano for best sound as a comparison so I'll take the other approach. For the most part the comparison will use the default settings with a medium Hall reverb (that most pianos can provide). Because sampled pianos can sound much different at the same key velocities, I might add or reduce some percentage of velocity across the board for a comparison to at least get the sound to try and be somewhat consistent, but other than that I will not adjust any other MIDI parameters so you can get a feel for what the out-of-the box sound is and also realize how a MIDI file needs to be optimized for each piano to get the best sound.

The MIDI files used only change key velocities. MIDI continuous Controller CC7 (volume) and CC11 (expression) are supported by most libraries and in some cases you can use them very effectively. I feel this is the best setting for a comparison as some pianos react differently to setting volume controllers and many digital performances only address key velocity changes (aside from pedal use, a real piano changes volume based on key

pressure – even though a volume pedal is available on all synthesizers and also can be used with all MIDI based sample libraries).

A few words about controllable parameters (see the documentation for your sample library to determine if/how they can be controlled in real time). Most good sample libraries (for any instrument) support variable microphone positions. Typically a good piano library will have at least three mic positions (which can be named various things). Most support a close position that typically has less reverb and a much punchier, biting sound with mics placed right in the piano or very close to it. Then there is typically a mic position as if you were at the piano as a player. The third common mic position is the audience perspective at a distance (or variety of distances). Other positions are sometimes available as well and sometimes three are adjustable settings for each position.

Most good sampled pianos let you vary the lid position (some just open and closed and others let you fully control how much opened or closed). Another parameter control many sampled pianos support is adding pedal noise and even slight audience noise to get a more realistic feel. Some pianos let you control sympathetic string vibration. Some let you EQ in the plug-in. Most give you a variety of reverbs, chorus options and a digital ambience setting. As you can see, there are a lot of things to think about when you use one of the full featured piano libraries. I will include a number of screen shots of the plug-un GUIs that will both give you a better idea of the parameters supported by each library in the comparison and also show you what defaults were typically used when creating the sound files.

Finally, this is not intended to be a competitive review. I am not going to rate these pianos or "bash" any of them as I'm sure they all have their uses and to some extent you get what you pay for, but I will give my impressions on use and overall sound, but that is just my opinion. You can listen to the files and draw your own conclusions.

As I add new comparisons, I will add plug-in information to this file that may be useful to the reader. Also note that I am not going to address how to install and integrate these products into your sequencer or notation program (that's what the manuals are for).

Just remember, while some of these comparisons use computer generated MIDI files, the best sound on all these pianos comes from playing it live on a MIDI keyboard. There is no substitute for adding the human element to the equation but many people are posting piano files on IMSLP using the canned libraries that come with Notation packages and hopefully this comparison will give these composers and arrangers a better idea of what other options are available to generate virtual piano performances.

COMPARISON FILES

1. Chopin Op. 64, No.1 (Minute Waltz) – Computer Generated

This file was first created in Notion (printed output posted on this page) as a three part score so I could create a MIDI format 1 file (voices on separate channels) to load into the sequencer (Cubase 7.5) to easily manipulate melody, harmony and bass lines. The tempo changes were added in Notion but most all the other "humanization" was done in the sequencer such as: slightly temporal adjustment off the exact beat of starting and ending notes times, making sure chord notes were not all played exactly together, tweaking MIDI velocities on all voices, adding note overlaps for legato sections, adding pedalling in a similar manner, etc. From there I created the MIDI format 0 file (all voices aggregated to the same MIDI channel) that is posted. This file was used without alteration for most of the comparisons (changes are noted in the sound file name posted).

No pre or post insert processing was added to any of the Chopin examples so you can make a better "out-of-the-box" comparison. Most of the files would sound a lot better if I added some, but that would invalidate some of the comparison (what pianos sound best using their default settings).

Here is the MIDI format 0 file output as displayed in a standard sequencer "piano-roll" format (Cubase 7.5). As you can see the lower portion shows the key velocities that are mostly in the 25-75% of the max range (0..127). The middle layer are CC64 sustain pedals added by hand and the upper portion contains the hand-optimized midi notes generated from Notion4.
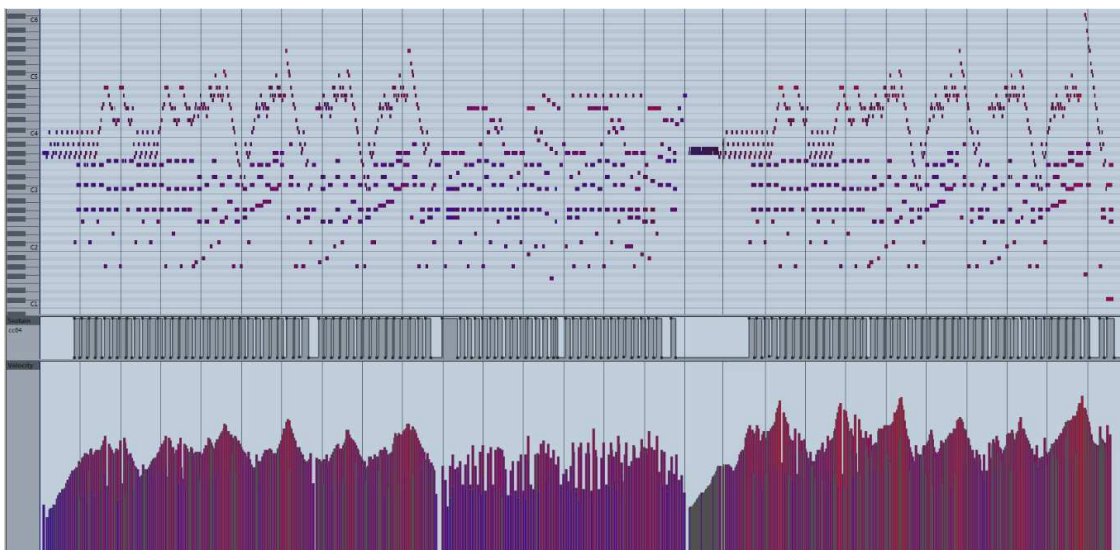
2. TBD – This one will be played on a MIDI controller for comparison and I will add some post processing. It will also concentrate on the lower key velocities.

3. TBD – This will be a very percussive piece emphasizing the higher key velocities.

4. TBD – An orchestral example with piano to compare the scoring pianos better.

THE PIANOS

1. Vienna Symphony Library (VSL) - Vienna Imperial

This is a Bösendorfer Imperial sample set from VSL. It loads as its own VST plug-in (other formats are available) and does not use the Vienna Instruments Pro Plug-in that most of the other VSL instruments use.

The top level plug-in screen looks like this:

As with most of the better sampled pianos, a few microphone position sample sets available. Close, Player and Distance mic position samples can be loaded into a virtual instrument channel, but you can not load multiple samples and mix them on the same channel as you can with other libraries (you'll have to duplicate channels and assign a separate microphone position to each and then mix them – no big deal and that may give you more control anyway).

This piano sounds good at relatively high key velocities and defaults to a pretty high dynamic level that works well for solo playing. A volume slider can easily adjust that and you can control volume though CC7 (Master Volume) and CC11 (Expression) as would be expected. For the Chopin test

I set this to near a maximum setting and removed CC7 so all volume is controlled by key velocity sample playing.

As with the better sampled pianos, a number of Factory Preset sounds are available that you can tweak and store as new settings if you like.
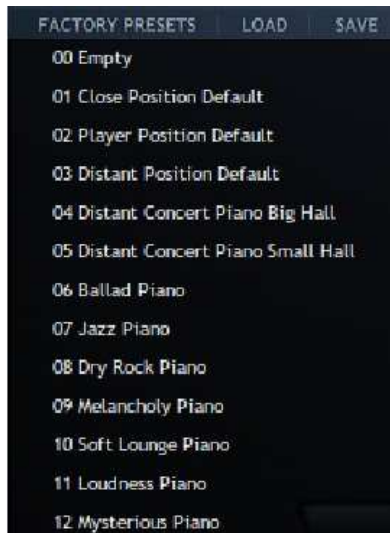
The Advanced settings window lets you control a number of parameters including MIDI sensitivity, Octave Shift, Transposition, Reverb Type and Amount, Dynamic Range, Sympathetic vibration, Pedal noise and Stereo width.

There is also a key editor function that lets you fine tune and EQ each note on the piano (a very useful feature for optimizing the piano to sit well in a mix).

It's not cheap, but it is an impressive piano that is easy to use, has a lot of configurable options and to me sounds good without doing too much to it. Its great dynamic level will let this piano cut through other instruments if needed.

2. Synthogy Ivory II Grands

The Ivory sampled pianos have been out for a while. This is the second version of the product that includes three different pianos (and there are additional pianos available for sale in the Ivory product line):

- **Bösendorfer 290 Concert Grand**
- **Steinway German D Concert Grand**
- **Yamaha C7 Concert Grand. A number of synthesized options are also included.**

These pianos have a lot of controls, more than any of the pianos compared here (but I'm not implying more controls always means better). The default volume of Ivory is less than that of VSL Imperial but it does have a gain control on the Session page that I used to try and normalize the volume of all pianos to around the same level. Ivory uses its own plug-in engine & GUI which is very pretty and perhaps even a bit daunting.

Here's the Program page with the Bösendorfer 290 loaded. As you can see there are controls for many parameters, including ability to trigger the release samples. Note Ivory also includes some synth samples with associated controls, which I am not addressing in the comparisons.

The Ivory II Concert Grands Session menu contains the Factory Presets for each of the three pianos:

Name	Type	Edited	Keyset	Rel	Soft
Default	Factory		No Piano Keyset		
⊟ Bosendorfer					
Bosendorfer 290 Grand	Factory		Bosendorfer 16 Level	On	On
Bosendorfer 290 Grand II	Factory	Yes	Bosendorfer 16 Level 2	On	On
Bosendorfer Imperial Dry	Factory		Bosendorfer 16 Level	On	On
Studio Bosendorfer 290	Factory		Bosendorfer 16 Level 2	On	On
Concert Bosendorfer	Factory		Bosendorfer 16 Level	On	On
Jazz Bosendorfer	Factory		Bosendorfer 16 Level	On	On
Imperial Hall Grand	Factory		Bosendorfer 16 Level	On	On
Bosendorfer Recital	Factory		Bosendorfer 16 Level 2	On	On
Warm Bosendorfer Room	Factory		Bosendorfer 16 Level 2	On	On
Imperial Hall Grand II	Factory		Bosendorfer 16 Level 2	On	On
Ostinato Bosendorfer	Factory		Bosendorfer 16 Level 2	On	On
Cathedral Bosendorfer	Factory		Bosendorfer 16 Level	On	On
Mellow Bose Tshift	Factory		Bosendorfer 16 Level 2	On	On
Imperial Grand & String Pad	Factory		Bosendorfer 16 Level	On	On
Soft Bose	Factory		Bosendorfer Soft Levels	On	On
Soft Hammers and Dampers II	Factory		Bosendorfer 16 Level 2	On	
⊟ German D					
German Concert D Grand	Factory		German D 18 Level	On	On
German Concert D Grand II	Factory		German D 18 Level 2	On	On
German D Grand Dry	Factory		German D 18 Level	On	On
Clean German Grand	Factory		German D 18 Level	On	On
Studio German D	Factory		German D 18 Level	On	On
German D Intimate Club	Factory		German D 18 Level 2	On	On
Fingerprints German Grand	Factory		German D 18 Level	On	On
Concerto German D Grand	Factory		German D 18 Level	On	On
German D Recital Hall	Factory		German D 18 Level 2	On	On
Concert Hall German Grand	Factory		German D 18 Level 2	On	On
Chapel Concert D	Factory		German D 18 Level 2	On	On
Bright Steiner	Factory		German D 18 Level	On	On
Dreamy German Grand	Factory		German D 18 Level 2	On	On
Rock T-shift Grand	Factory		German D Hard Levels	On	
Soft and Delicate	Factory		German D Soft Levels	On	On
Ambient Piano	Factory		German D 12 Level		
⊟ Studio 7ft					
Studio C7 Grand 16	Factory		Studio 7ft 16 Level	On	On
At the C7	Factory		Studio 7ft 16 Level	On	On
Studio 7' Grand Dry	Factory		Studio 7ft 16 Level	On	On
Bright Jazz Studio Grand	Factory		Studio 7ft 16 Level	On	On
Close C7 Club	Factory		Studio 7ft 16 Level 2	On	On
Pursuit Studio Grand	Factory		Studio 7ft 16 Level 2	On	On
Resonant Jazz C7	Factory		Studio 7ft 16 Level	On	
C7 Hall Grand	Factory		Studio 7ft 16 Level 2	On	On
Bright Studio C7	Factory		Studio 7ft 16 Level	On	
Pop Ballad C7 II	Factory		Studio 7ft 16 Level 2	On	
Rock Shift C7	Factory		Studio 7ft 16 Level	On	
Hard Rock C7	Factory		Studio 7ft Hard Levels	On	
Contemplative C7	Factory		Studio 7ft 16 Level 2	On	On
Softly C7	Factory		Studio 7ft Soft Levels	On	
Pad & Studio Grand	Factory		Studio 7ft 16 Level 2	On	On
Ambient C7	Factory		Studio 7ft 12 Level 2		

This package certainly gives you a lot of sounds and flexibility.

Here are the Effects controls. You can add Chorus, and Ambience (I keep that on for the comparisons as it is a default preset). You also can pick from a number of preset effects and select a room type – an amazing level of parameterization is thus possible when tied in with the EQ controls.

On top of all this, there is also a Session GUI that lets you control top level parameters:

Finally, Ivory has a Preferences page that lets you easily turn CC7 and CC11 processing On or Off which can come in handy instead of having to go back and fiddle with your MIDI file.
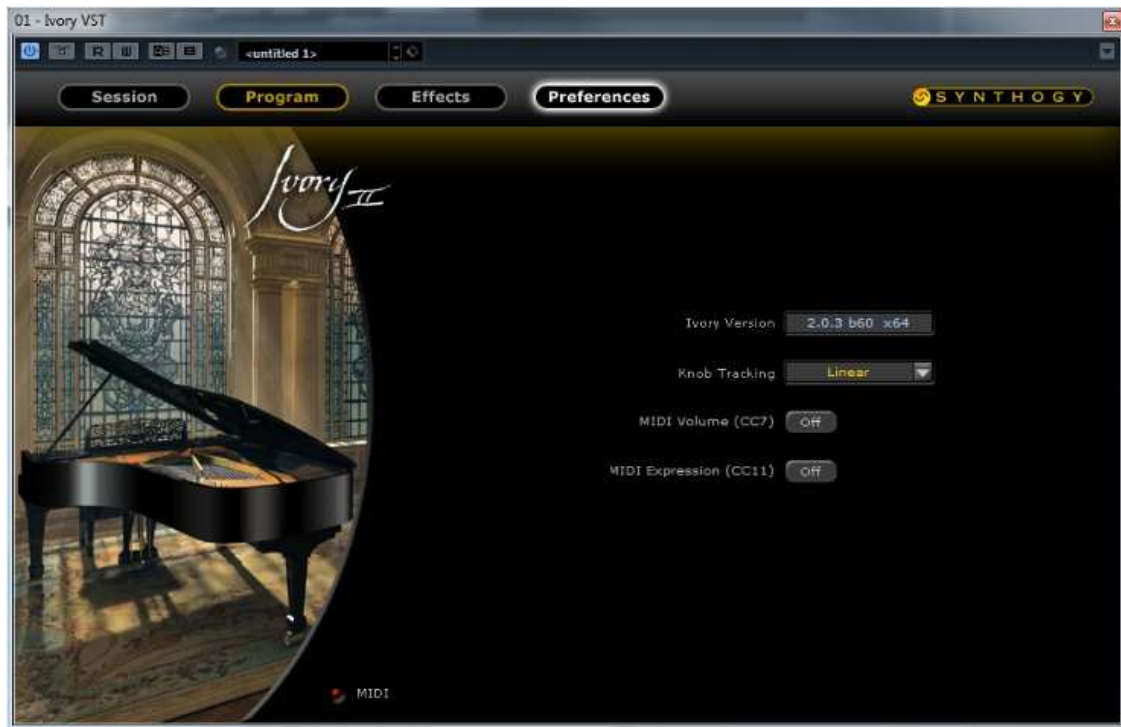
It's not surprising why Ivory is so popular. The pianos sound good, but in general don't have quite the punch that the VSL Imperial does (comparing the Ivory and VSL Bösendorfer 290s (but this is not saying one is necessarily better than the other – its all what suits you ears and your needs). All the controls might turn some off (some libraries take the opposite approach of simplicity), but if you are into controlling every aspect of the sampled piano, you should look deeper into Ivory.

3. East West Quantum Leap Pianos

Like Ivory, East West Quantum Leap Pianos offers four piano sample sets:

- **Bösendorfer 290**
- **Bechstein 280**
- **Steinway D**
- **Yamaha C7**

Thus, it appears to be trying to compete directly with the Ivory Grands. It uses the East West Play plug-in engine (used by all East West sound libraries), which appears to be quite efficient streaming from disk.

This is a very big sample set and you have multiple sample sets to choose from for each piano (Normal, Dynamic and "Lite" for reduced memory use - a number of pianos have this "lite" option).

East West has a handy feature allowing you to load any or all of the three microphone positions (Close, Player and Room) and mix them on the same channel as you like with a master volume right next door. You also can control the Envelope and individual articulations loaded. A sensitivity slider varies the sound easily. As with a number of these pianos, there is a digital Ambience button you can activate as well as a number of room reverb settings. As with all the pianos there is documentation telling you how to use midi control parameters to get the best use out of the library. The GUI also lets you easily see dynamic CPU, Disk, Voice and Memory usage. As with many other pianos you can control the lid settings (here in increments).

So compared with Ivory, there are a lot less controls, but perhaps these are all the controls you need if you are using Insert processing anyway in your DAW. Quantum Leap pianos thus targets the user who doesn't want to tweak a million knobs and fine tune every last parameter but presents a very full and varied sample set. The only thing I can say here is that a lot of East West samples tend to be recorded in "wet" rooms so it is difficult to get a very dry sample sound, if you need that. There is quite a bit of reverb even on the smaller room reverb settings. Frankly, I prefer the Bechstein 280 to the Bösendorfer 290 (whose bass tones need tweaking in the Chopin MIDI example – as a real Bösendorfer 290 has a very strong bass register and perhaps this sample set brings it out more than others).

This is a case where you really notice that there is no such thing as a one-size-fits-all MIDI file. The same file was used for the VSL, Ivory, QL and Alicia Keys comparisons. You can really hear that some sample sets have much different sounds for the same key velocities – so for a true "best comparison" I would have to modify the MIDI file to get the best sound for each piano (beyond the scope of what I intended). For example, the QL

pianos seem to sound better with a bit less key velocity than the VSL playing the same file.

I should also say that the Quantum Leap Piano has the among the most complete assortment of room reverb options of any of these products, though many people prefer a "dryer" sound on the piano and like to add their own reverb as a stereo insert.

The pick list below is about half of the reverb options available (note that these obviously apply a variety of East West Play-engine based products, not just the QL pianos).

4. Native Instruments (NI) Alicia Keys

This is a Yamaha Piano by NI that is meant to be loaded into the NI Kontakt player and loads up as a Kontakt library object when installed. Don't let the name fool you. This is not just a pop piano. It works well for classical as well as pop music and to my ears has a great, at times even sweet, sound.

Its default settings produce a volume much less than the VSL Imperial (more in line with Ivory) but as with all sample sets, that can be adjusted.

The user interface is centered on minimizing controls presented at any one time, though there are Room, Keys, Pedal, Resonance and Noise options. Of course, being a Kontakt instrument, you have a lot of Kontakt control options as well (that I will not go into here).

I like the simplicity and intuitiveness of the controls. For example, instead of giving you a lot of different rooms, the convolution reverb control has a few room types and then lets you choose the size of the room with a knob.

The other controls also follow this simple-but-effective approach:
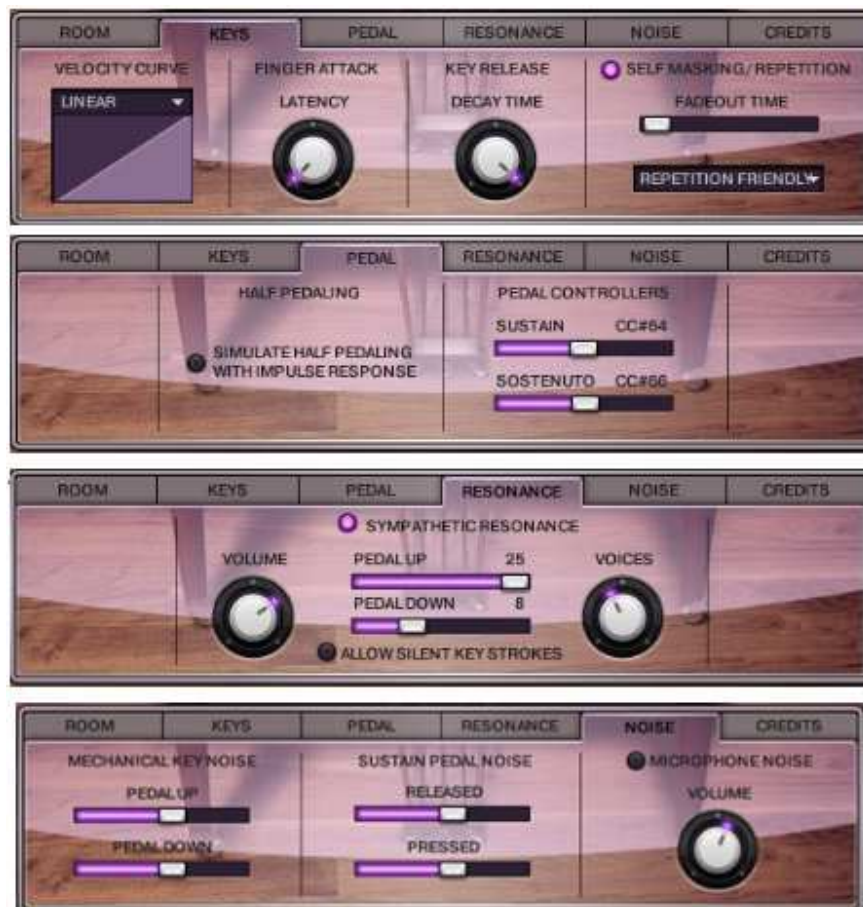
There are a few presets to choose from and slots to store your own presets.

01 Dry
02 Small Studio
03 Big Studio
04 Small Auditorium
05 Big Auditorium
06 Small Concert Hall
07 Big Concert Hall
08 Audience - Dry
09 Audience - Small Studio
10 Audience - Big Studio
11 Audience - Small Auditorium
12 Audience - Big Auditorium
13 Audience - Small Concert Hall
14 Audience - Big Concert Hall

A simple and very nice piano for someone who just wants to sit down and play without worrying about a lot of controls.

5. NI Komplete & Kontakt Factory Pianos

NI offers a Komplete9 product that contains an astounding number of samples, synthesizers and other programs including the latest version of Kontakt. If you can only afford one sample set, this is an excellent option to investigate as it contains a soup-to-nuts set of products in one package. Too much to go into here, but germane to this discussion, you get at least six acoustic piano sample sets (in addition to numerous electric pianos, clavinets, etc):

- **Upright Piano**
- **Berlin Concert Grand**
- **New York Concert Grand**
- **Vienna Concert Grand**
- **August Förster Grand (part of Kontakt Factory Library)**
- **Kontakt Factory Library Concert Grand**

The first four use a common GUI with a simple set of controls for Input, Resonance, Noise, Detail, Reverb and Position (you get four here – Close, Near, Medium and Far). The extracted options for each are below.

The piano skins for the Berlin, New York and Vienna Concert Grands are different, but the above options are the same for four all of these pianos:

When loading these pianos from the Kontakt library, you have a number of piano sound options for each of the four pianos:

The Kontakt sample player comes with two pianos (the August Förster Grand and a piano labeled simply Concert Grand). These pianos are just part of a complete sample library that comes with Kontakt (the orchestra part of which is based on a set of VSL libraries that NI uses). Harpsichord and Organ are even included. The Kontakt library is a full set of samples geared for both orchestral and popular use.

The two pianos in the Kontakt Factory library have an identical set of controls different from the four Komplete pianos with Instrument and Options screens:

Frankly, the sound of these pianos to my ears are not up to par with the VSL, Ivory II, Quantum Leap or Alicia Keys libraries, but what you get for your money is excellent and if you play around with the controls enough you might very well get the sound you are looking for. The upright piano is a great addition as that is not included in the expensive sets discussed and it has its uses in settings that call for a more down to earth setting (perhaps you want to simulate some Joplin rags or want a more bar-room piano sound).

6. Garritan Pianos

Garritan has Jazz and Personal Orchestra libraries, each of which has Steinway piano. I am using a rather old library so they may very well have had numerous updates since I purchased my libraries. Finale uses Garritan sounds (they are now the same company) as I believe does Sibelius.

Here I have loaded the Garritan Jazz and Big Band and Garritan Personal Orchestra Steinway pianos into Kontakt. Nothing much to control they are just the sample sets loaded into Kontakt. I did add external reverb in this case to try and match the other sample sets (East West Spaces Convolution New York Piano Hall 3.4 s setting).
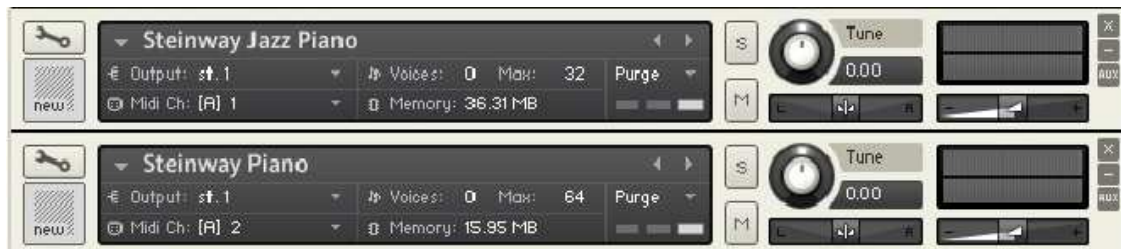
The Jazz piano defaults to much lower levels than the Personal Orchestra piano in Kontakt. Considering all the other instruments you get in the Garritan Personal orchestra, these pianos cost pennies versus hundreds of dollars for one of the stand alone pianos. As a scoring piano integrated into the GPO they will likely be fine for you. Garritan also sells a stand-alone piano that I do not have access to and it looks like they are coming out with a much more sophisticated piano soon.

Considering each library comes with a lot of other instruments for a very reasonable price, these are very cost effective pianos and likely very similar to the sound you will get from Finale and Sibelius (which I think now use Garritan Version 4 libraries – note that I am using an older version in the comparisons).

Garritan Personal Orchestra used to load up using Kontakt:

But now uses the Aria player:

7. 8DIO 1928 Legacy Steinway Scoring Piano

The scoring pianos are much different animals than the pianos presented so far. These specialized libraries are geared for using the piano in combination with an orchestra or as a more muted, legato solo instrument typically with a lot of reverb. The first of these we'll look at is the 8DIO 1928 Legacy Steinway Scoring Piano.

The 8DIO products are meant to be loaded into Kontakt (but not as Kontakt libraries). The Legacy Steinway gives you a number of sound set options to load with "Lite" options for limited memory use. If you are using this in combination with a virtual orchestra, the "Lite" option is very valuable so you can load as many instruments in memory as possible.

01_8DIO_Grand_Piano_3RR_Mid_Mem.nki	454.95 kB
02_8DIO_Grand_Piano_1RR_LITE.nki	171.49 kB
03_8DIO_Grand_Piano_FULL_Hi_Mem.nki	0.69 MB
04_8DIO_Grand_Piano_Close_Mic_Hi_Mem.nki	406.07 kB
05_8DIO_Grand_Piano_Player_Mic_Hi_Mem.nki	362.82 kB
06_8DIO_Grand_Piano_Close_Mic_Ultra_Life.nki	102.61 kB
07_8DIO_Piano_Grand_Player_Mic_Ultra_Lite.nki	95.91 kB
08_8DIO_BONUS_Ambient_Hang_Harp.nki	131.64 kB
09_8DIO_BONUS_Ambient_Imperial_Guitar.nki	131.83 kB
10_8DIO_BONUS_Ambient_Beautiful_Bells.nki	131.68 kB
11_8DIO_BONUS_Ambient_Pristine_Propane.nki	131.71 kB
12_8DIO_BONUS_Ambient_Echo_Of_Past.nki	131.77 kB
13_8DIO_BONUS_Ambient_Echo_Of_Past_2.nki	131.76 kB
14_8DIO_BONUS_Ambient_Phat_Belly_Bass.nki	131.74 kB
15_8DIO_BONUS_Ambient_Unsanitary_Pitch.nki	131.80 kB
16_8DIO_BONUS_Ambient_Bowled_Piano.nki	108.26 kB
17_8DIO_BONUS_Ambient_Belonging_Metals.nki	101.92 kB
18_8DIO_BONUS_Ambient_Music_Boxed.nki	101.81 kB
19_8DIO_BONUS_Ambient_Advanced_Metal.nki	101.81 kB
20_8DIO_BONUS_Ambient_Advanced_Metal_2.nki	101.81 kB

As you can see there are a limited number of controls, but some interesting ones.

You can select four articulation combinations (Staccato, Hard, Soft and Softest) allowing you to easily fit this instrument into a score in different ways. There is a close mic control and there are a number of other sounds you can mix in to get a more "movie-like" atmosphere (Guitar, Hang Drum, Metal Bowl, Pipe Harp, Bell and a Propanium sound) – special effects that would not be that useful in a classical setting, but this instrument is not really geared for that.

There are a couple of Options available (with the Options selection):

There are simple controls for Pedal and De-Noise. You can also easily the adjust velocity curve highs and lows with the Curve, Min and Max controls or you can draw your own curve with the mouse. This is very simple and important to easily let you fit the piano into a score range where other instruments will be playing and also bring out some notes.

Finally a set of interesting Convolution reverb settings are available that are geared for production more than classical performance.

I can say that these scoring pianos really need to be played with a MIDI controller. The canned MIDI file does not do them justice. So I'll have other examples that will show them off in a better light than the Chopin example does. To my ear, it sounds a bit off tune when chords are played (perhaps I need to optimize the controls more).

8. 8DIO 1969 Steinway Scoring Piano

8DIO recently released another scoring piano – this time a 1969 Steinway. Like the 1928 piano, it has its original strings. This piano has similar controls to the 1928, but adds six different mic positions you can mix as you like to create a very large timbral palette. Its bass is stronger and to my ears is more suitable for solo playing than the 8DIO 1928 piano (especially for more modern music). I've included three different versions of the Chopin example using much different microphone position mixtures to give you a better idea here.

As you can see there are Overhead, Keyboard (player's perspective), Dampers (Mic on dampers), Spot, Ambient and Room positions. All can be turned off or on and then mixed.

As with the 1928 piano there are a number of other sounds you can mix in with a gain control for cinematic use and a special setting for staccato.

There are simple EQ and attack/release settings and a Convolution reverb that can be Adjusted with standard Wet, Dry and Pre-Delay settings. There are standard rooms like Hall, Church and Studio and some special rooms for cinematic use.

Finally you can use the Option control to select a key velocity curve and control pedal noise, etc.

A simple yet very flexible set of controls. As with the other scoring pianos, the Chopin MIDI example really does not show this piano in its best light. I'll have to put another example on this page at some point to better demonstrate what these scoring pianos can do. I suggest you go to the 8DIO web site and listen to some of their examples (though the piano may not sound like them all "out of the box").

9. Spitfire Orchestral Grand (Scoring Piano)

This interesting virtual piano is like the 8DIO piano, containing limited controls and geared for mixing with an orchesta or ensemble (Spitfire calls this a "contextual" piano). The company is quite clear that this piano is designed for sitting properly within a virtual orchestra.

It also is meant to be loaded into Kontakt (not as a Kontakt library).

The Spitfire Orchestral Grand has very flexible and interesting mic position selections again geared for mixing into an orchestral setting.

<u>Close</u> (C): Two matched valve mics placed for close to the piano.
<u>Tree</u> (T): A "Decca" tree of three mics placed above the conductor's podium.
<u>Ambient</u> (A): A set of condenser mics set wide apart on either side of the same lateral plane as the Tree.
<u>Outriggers</u> (O): A set of condenser mics placed high up in the gallery away from the band giving massive stereo spread.

Stereo width and pan are available. You can control sample release triggers and very similar to 8DIO, you can draw an velocity curve and also select some velocity curve presets (which can have an effect similar to EQ).

As with 8DIO, this piano really needs to be played. The Chopin MIDI file does not do it justice as it is not intended for that kind of treatment. But it does serve to show that you may be very disappointed if you buy a "scoring" piano when you are interested in solo piano virtual performance.