

Virtual-instrument Violin  
Violin Concerto in D Major by Tchaikowsky, 1878

## BIOGRAPHICAL SKETCH

### Jim Thomasson – Conductor/Performer



A lover of orchestral music, Jim Thomasson is a non-professional musician living near Seattle, Washington, USA. Trained in piano and educated in Physics and Mathematics, Jim is an Engineer and small manufacturing business owner. For the past thirty years, his business and designs have supplied customers around the world with precision motorized Linear Actuators.

Since the early development of virtual musical instrumentation (circa 1985), Jim has had an almost “obsessive” desire to conduct and perform Tchaikowsky’s Violin Concerto in D. His first performance of this concerto was in 1993 using hardware sound modules by E-Mu and Roland together with a MIDI-sequencer by Musicator. Making a personal judgment that although the hardware samplers of that time were interesting, they were not user-friendly. Therefore, for the next

ten years, Jim continued to compose original music and conduct/perform major symphonic works on Sound Modules – always knowing that the acoustical quality was lacking and always hungering for better quality, and most importantly, screaming for instrument playability.

After a hiatus, revisiting the current acoustical technology in 2005, Jim found that a dramatic increase in computer speed and memory size had spawned powerful sound manipulation programs. In particular, Kontakt’s script-enhanced software sample-players laid fertile ground for clever acoustical designers and programmers to revolutionize how you play virtual instruments. Fueled with powerful script programming, Kontakt now gives Jim the near-experience of actually playing the violin, the cello, the trumpet.

Building on the earlier sound module performances, Jim’s latest performance surprises even Concert Masters of symphony orchestras. In one recent demonstration, a lifelong violin player’s mouth literally dropped open in astonishment – exclaiming, “How are you doing this? For me, it would be easier to learn the violin!” “Not true!”, Jim responded. “I only took me twelve months, in my spare time, to conduct and perform a complete violin concerto – all the instruments! In contrast, it has taken you over forty years to learn the violin . . . and you still can’t play Tchaikowsky’s concerto at a professional level!”

Starting with a Conductor's Score and a lifelong knowledge of musical notation, using mostly the mouse and computer keyboard, Jim entered the fifty thousand notes and one million controllers for each twenty-minute Movement. The result represents Jim's musical design and emotions. It is not simply a deliberate replication of Julia Fischer's, Jascha Heifetz's, nor Itzhak Perlman's performance. Instead, it's a unique expression of Jim's playing each orchestral instrument . . . and most importantly, the solo Stradivari violin by Tommasini and Lucato. Each note, each nuance carefully crafted and molded into his image of Tschaiikowsky's grand, but controversial, creation. Jim says, "You can play exactly how you want . . . and while you're conducting, the players don't argue with you."

## **HARDWARE/SOFTWARE**

Samples:	<ul style="list-style-type: none"><li>• Stradivari Violin 2.01 by Tommasini and Lucato</li><li>• Personal Orchestra by Garritan</li></ul>
CPU:	Dual-core +4800 AMD (over-clocked)
Memory:	4GB
HardDisk:	10KRPM
OS:	XP Pro 64-bit
Sample-player:	Kontakt2 by Native Instruments
Sequencer:	Cubase SX by Steinberg

## JIM'S PERSONAL DESCRIPTION OF HIS PERFORMANCE PROCESS

For this work, I used ~thirty-two instruments and/or instrument groups contributing to the overall sound. While using different individual sounds (samples) for each of two flutes, each of two oboes, each of two clarinets, each of two bassoons, the First Violin sound is sampled from a single group of twelve violins (twelve players got together in the recording studio and laboriously & carefully played the same notes in all the different ways you can play those notes.) Also, twelve Second Violins, twelve Violas, twelve Basses as instrument groups. Therefore, these ~thirty-two tracks of timed information releases the individual sounds and joins them together digitally for storage in a hard-disk file. Everything is done inside the computer without help from a single bit of external acoustical (real instruments) and other electronic modules. I rarely used a digital keyboard -- instead my interface was the computer keyboard and the mouse -- still, I feel that it was similar to actually playing each instrument.

All this vast information about how to play the music is contained in one gigantic file inside Cubase as a function of time. The computer's clock provides the timing. So, when you start the whole thing playing, as the computer's clock matches the time stored inside the file, the particular sound is played (released) from the computer's memory. Thus, as time marches along, all these instruments and groups of instruments are instructed to start and stop playing -- and how to play what is released.

In truth, no two instruments can start at exactly the same time -- the computer can't do two different actions at the same time.

However, the time between starts can be very small . . . in the order of a few millionths of a second. You can't hear the difference.

However, to mimic a real orchestra, I actually force the instruments to not play even close to the same time, because real human players can't be that accurate. Staggering the start times gives a more realistic overall sound.

One of the most important "tracks" of information is the tempo. The numbers stored on this track, in a sense, modify the computer's clock to slow down or speed up the music. In my music, the tempo information varies all over the place . . . and I consider it the most important factor to truly represent good orchestral music.

In the end, you start (play) the sequence (left click the mouse), listen to the result (on big speakers in my Music Room), and twenty minutes later, you have a recorded hard disk file of that music. What you hear right now was twelve months in preparation including learning to operate the software/hardware.

I have concluded that 1) the intensity balance between instruments and 2) the tempo variations -- makes the music alive! I spent the most time on these two parameters.

Also, because each instrument has its own modifiers and timing, it's much like playing each instrument separately.

Although I spent months creating this Concerto, listening and re-listening to each musical phrase, in my Bose headset, in my living room, in my car, I still listen to the completed work with great enjoyment -- it's my personal expression of Tchaikowsky's beloved and amazing Concerto -- a lifetime achievement for both me and "Pyotr"!