

# Vienna Dimension Violins and The Spectrotone Chart

By [Peter Lawrence Alexander](#) / June 22, 2013

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*This is the second Insights article on the Vienna Dimension Violins.*

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## Spectrotone Chart Summary

The Spectrotone Chart, created by four-time Academy Award nominee for Best Film Score, Arthur Lange, picks up where Rimsky-Korsakov left off and goes a step further, and a step beyond.

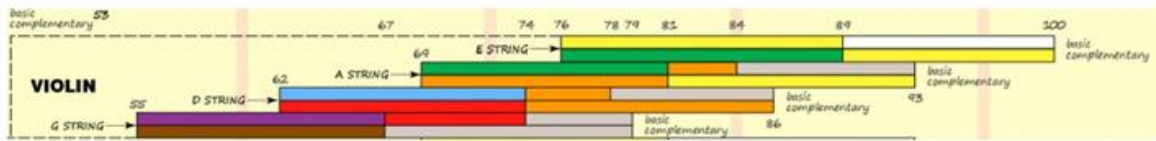
In his 1922 *Principles of Orchestration*, Rimsky-Korsakov, modifying the work done by Francois Auguste Gevaert, divided each orchestral instrument into four range breaks: low, medium, high, and very high. For the woodwinds, Rimsky-Korsakov used words to describe the tone colors within each range break, but not for the brass or strings.

In 1943, Arthur Lange who below is conducting and sitting next to Dmitri Tiomkin, released his Spectrotone Chart, that, using a color coding system showed the tone colors going up each instrument's range, but went a step further by showing how four different types of combinations could be created.



But Lange didn't stop there. He then went the step beyond by identifying the tone colors on each individual string for each orchestral stringed instrument.

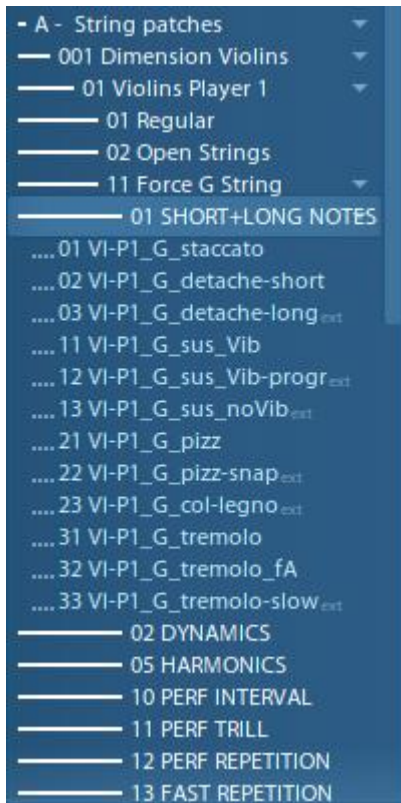
Below is a screen capture from the 70th Anniversary Edition of Lange's [Spectrotone Chart](#). From low to high you have the G String, D String, A String and E String. Reading left to right focusing on the top bar for each string (labeled Basic), are the tone colors *per string*. For example if you write something Sul G, you know the tone colors and the pitches within that tone color per string (the numbers you see represent the MIDI note number range).



To put this into a perspective, we'll look at the G-String where there's a basic tone color of Red. Here's a summary chart showing the tone colors by Span of Orchestration for all instruments. Notice the location of Red. By knowing this for each instrument (as illustrated on the Spectrotone Chart), you can create immediate Basic combinations called Perfect combinations, with any other that has a Red tone color. Three additional combinations in the Spectrotone Chart System are Close, Complementary, and Remote

	Sub Bass	Low	Medium	High	Very High
White				—————	
Yellow				—————	
Green			—————		
Blue		—————			
Orange		—————			
Red		—————			
Purple	—————				
Brown	—————				

Since each tone color has a specific pitch range per instrument, interesting harmonies and compositional techniques are available, across the orchestra and within the strings, which the Dimension Violins can take advantage of via the Force String feature.



However, where Vienna leaps ahead is with the sheer level of articulations that have recorded per string per stringed instrument. VSL has recorded Short + Long Notes, Dynamics, Harmonics, Performance Interval, Performance Trill, Performance Repetition and Fast Repetitions – again, *per string, per stringed instrument*.

As a result, composers now have unprecedented virtual writing and production capabilities for the string section via the Vienna Dimension Strings.

### Learning Curve

If you already have a Vienna library, you simply apply what you already know and start work within a few minutes. However, if you've never worked with a Vienna library and the Vienna Instrument player, then allow yourself about a week for a beginning learning curve. The thing with Vienna is that their design is essentially, *learn once*, though at first blush landing the Space Shuttle might look easier.

As I've written before, there is a bit of visual intimidation. However, once you realize that setting up a template is as simple as laying out a basic spread sheet, rows and columns, you suddenly “get” the genius design behind the Vienna Instrument player. Once you “get it” you realize that you can do on one or two tracks in a sequencer what can

take 10 – 20 tracks with other string libraries. Again, that's per instrument. Consequently, if you want to make like Ravel and make a bowing change every 3 – 4 pitches (right, I said *pitches*), you can do it.

Vienna Dimension Strings has radical applications for film and game scoring since it allows you to literally design your own seating arrangements, similar to live, and place the “players” by stands or individually. So if you want the back stands to sound first and then move to the front, you can do it. I have tried this. You'll need the Virtual Sound Stage tool to spatially place stage front to stage back, but you can spatially place stage left to stage right within the Vienna Instrument player.

This, however, is my one criticism of the Vienna Instrument player. At this point in the technology, it would be good to be able to place stage front to stage rear within the player, thus eliminating the need for outside spatial placement tools like SPAT, and paving the way for additional VSL sales for either the Vienna Suite and FORTI/SERTI and or Vienna MIR.

### Double Your Pleasure...”

I do want to address one issue with Dimension Violins that I touched on in a previous review, e.g., the allegedly small section sizes. The Vienna Dimension Violins are “only” eight (8) players. But I have not yet been able to get them to phase and create the dreaded organ/accordion sound when you “double them” to create 16 first violins, or add “four to the floor” and create 12 first violins. Either way, this is a really *big* sound. And the polyphonic writing opportunities are just sensational.

Tie in the Spectrotone Chart with Force Strings, and your coloristic writing opportunities just expand.

*This article was previously published at SonicControl.tv*