FORTI/SERTI: VSL's Spatial Placement Secret Weapon

By Peter Lawrence Alexander / April 14, 2012

The 64Bit Vienna Suite with Ernest Cholakis' FORTI/SERTI makes VSL the Proctor & Gamble of spatial placement with a solution appealing to composers, recording engineers, film mixers, sound designers, and post-production folks.

When it comes to spatial placement, VSL's marketing attention, and rightfully so, is focused on MIR Pro and the newly released MIR 24.

However, there's a second solution, released in February 2010, which combined with VSL's sales efforts with MIR, makes VSL the Proctor & Gamble of spatial placement by offering multiple solutions for a common problem. This second solution, which can appeal to composers running multi-hundred tracks, along with recording engineers, film mixers, sound designers, and post-production folks, is the 64Bit Vienna Suite *with* the FORTI/SERTI package designed by Ernest Cholakis of Numerical Sound in Toronto, Canada.

To do spatial placement outside of MIR, three components of the Vienna Suite are needed:

1. Power Pan;
2. Convolution Reverb;
3. FORTI/SERTI Tilt Filters.

Power Pan positions the sound stage left to stage right (see Ernest's Power Pan positionings article for woodwinds as an example).

Inserted into the Vienna Convolution Reverb, the Tilt Filter positions the sound, stage front to stage back. It's no more complicated than that. In the A/B audio comparisons for this article, you'll hear an immediate difference in spatial placement once the Tilt filter is inserted and applied.

> **Note:** In this article I'm explaining what FORTI/SERTI is and how it works.

What *IS* FORTI/SERTI?
Admittedly, FORTI/SERTI is a bit of an intimidating product name suggesting a device or technology developed for the U.S. Air Force Space Command.

Happily, *no*.

FORTI, is an acronym for **Full Orchestral Timbral and Reverb Impulses**, while **SERTI** is an acronym for **Small Ensemble Timbral and Reverb Impulses**. You can purchase one or the other, or both. But for the price and what you get, buying both is the best value. And they're available as downloads.

The screen capture below shows what comes with the product.

Rather than giving you an IR that combines both the tail and the early reflections, FORTI/SERTI separates these so that you can mix and match to get the right balance.

Tails are described as room types: Epic, Dramatic, Medium Symphonic, Large Symphonic Halls, Large Sound Stages, Small Room, Salon, Medium Sound Stage, Small and Large Recording Studio, Recital, Theatre and Club. And you have multiple selections of each type.

Then there are the Early Reflections.

SERTI early reflections range in length from 10–99 ms, with first reflections ranging from 8–42 ms, while FORTI ER's range in length from 36-99 ms, with first reflections also ranging from 8-42 ms.

Also included are: FilmEQ Timbral Impulses, High Pass Timbral Impulses, Tilt Filters A&B, Bass Isolation timbral impulses, Harmonic Emphasis timbral impulses, and finally, low frequency removal. Depending on the need of the samples or the mix, you'll often find yourself pulling from more than the Tails, ERs and Tilt Filters to shape the overall ensemble sound, and consequently, that of the final mix, because you have the tools to do so in a very efficient manner using the Vienna Suite.

> Thus, though a separate purchase to the Vienna Suite, with FORTI/SERTI, you're getting a 64bit-native total mixing and post production solution package that works as a plug-in within the Vienna Convolution reverb.

Since the focus for this article is spatial placement, our focus is on how the Tilt filters work. To do that, please download the FORTI/SERTI PDF Table below.

FORTI-SERTI Table

There are two types of Tilt filters, dark and bright. According to Mr. Cholakis, the Dark Tilt filters push the sound *closer* to stage back. The Bright Tilt filters push the sound *closer* to stage front.

> So once the sound is first positioned stage left to right with Power Pan, and it's stereo width set, you then use the FORTI/SERTI Tilt filters to position stage front to back.

When you buy FORTI/SERTI, you get seven different starting points, C2 through C8 where C4 is middle C. From an orchestration perspective, the effective range is from the bottom pitch of the cello to double high C.

You pick a starting Tilt filter based on the *lowest* note of the instrument. In the attached PDF, I've worked out all the starting positions for you including percussion.

Note: You don't have to put a Tilt filter on each instrument. If several are using the same exact settings, you can group them to use just that one set. Obviously, the "how" of this depends on your virtual mixing board program.

For consistency, as with SPAT, I tested with a flute.

For the flute (from any company), you start with C4 Tilt Filter (middle C) since that's the flute's lowest pitch nearest C4. But depending on the sampled flute, you may find the next octave higher works better for spatial placement. You can only know by experimentation. Within each Tilt filter are a range of distances. According to Mr. Cholakis, for Bright, the higher the number, the closer to stage front, while for Dark, the higher the number, the closer to stage back.

Assuming you're doing an orchestral setup, the starting procedures are:

1. Insert the Strings first since spatial placement of other orchestral instruments will be based on the string's positioning.

2. Insert the rest of the instruments and using Power Pan, position stage left to stage right.

3. Insert a TILT filter based on the particular instrument's lowest pitch into the Vienna Convolution to position stage front to back.

LOGIC FLUTE
As a starting demonstration, using a C scale, here are 5 mini-examples created using the EXS24 flute that comes with Logic. The reverb is an early reflection from FORTE set by Mr. Cholakis. The format is a wave file.

> Explained Mr. Cholakis, *"Most sampled orchestral instruments are close mic'ed so the samples contain some wind noise component that is too present/breathy or up close. The TILT filters help reduce this wind noise – one cannot hear this (wind noise) when listening to a live orchestra play because you're in a hall and often 40-50 feet away from*
> *the player."*

Note: *All of the audio examples below were checked for accuracy by Mr. Cholakis before posting. They are .wav files. When you click on the links you'll be prompted to either open or save the file.*

Logic Flute NO TILT (compare back to this)
Flute-no-tilt

Logic Flute C4 Dark 1
Flute-C4Dark1

Logic Flute C4 Bright 1
Flute-C4Bright1

Logic Flute C4 Dark 8
Flute-C4Dark8

Logic Flute C4 Bright 12
Flute-C4Bright12

My Observations So Far
Matched with VSL's Vienna Suite, FORTI/SERTI is a powerful problem/solution package. Everything here is first class, a veritable Harry Potterish set of magical audio transformations. Meaning no disrespect, the only thing FORTI/SERTI lacks is an online seminar from Hogwart's School of Witchcraft and Wizardry Audio Plug-ins Department!

The PDF I created for this article shows that FORTI/SERTI isn't hard to learn! One piece of paper, and in you're in a direction.

But there is one thing other thing this bundle needs and that's a series of positioning settings that takes into account other libraries suggesting how to spatially place them together.

Next, a few "spells" from Mr. Cholakis' own Hogwart's Audio Transformation Cookbook are needed to fully demonstrate the transformative power on audio the Vienna Suite-FORTI/SERTI team actually serves up.

But *first* you have to get the spatial positioning happening.

I emphasize this since the bulk of buyers will be composers and songwriters, not necessarily engineers. And what's needed for the bulk of these buyers is connect-the-dots instruction.

This is particularly important for FORTI/SERTI since excluding six hall IRs, you cannot download a full trial version of it, nor the Tilt filters, nor the other specialty IRs that come with it at this time.

That said, what FORTI/SERTI lacks in instructional content, it more than makes up for with the excellent accessibility of Mr. Cholakis directly who published his personal email address on the accompanying FORTI/SERTI PDF guide.

Now *that's* customer service!

So when you have questions you can write Mr. Cholakis and get answers, often the same day, and usually within one business day. There are very few developers where you can call and talk to the developer directly, and Mr. Cholakis is one of them.

In fairness, I do need to point out that many of the early Vienna Suite reviews written by engineers did criticize Vienna for the lack of a good manual. However, what balances out the lack of documentation here is the excellent availability of the Vienna team on the VSL forum to provide answers for Vienna Suite questions.

Thus, customers aren't left to learning either the Vienna Suite or FORTI/SERTI by the hope of just "cosmically getting it" somehow.

And now, a different application with FORTI/SERTI within the Vienna Suite.

Since the Vienna Suite now comes with Hybrid Reverb you have choice! Hybrid Reverb combines natural convolution impulses (early reflections of up to 1 sec.) with algorithmic reverb tails. So now with Vienna Suite and FORTI/SERTI, you can spatially position with Power Pan and the FORTI/SERTI Tilt filters, then select either convolution reverb or the Hybrid Reverb, while still enjoying full access to the remaining "ingredients" that come with FORTI/SERTI.

Thus, if you want to mix using a more algorithmic reverb, you can. If you want to mix with an all convolution reverb approach, you can. You can do *both* with the Vienna Suite.

As you begin discovering how the components can work together, you begin to see that the Vienna Suite-FORTI/SERTI combo is a significant mixing/mastering solution.

Hybrid Reverb - Edit

Not Just For Orchestral
Don't think that FORTI/SERTI is just for orchestral. The Tilt filters can just as easily be applied to positioning a rock band on stage! Then you also have the Bass Isolation timbral impulses, Harmonic Emphasis timbral impulses, and low frequency removal which can be applied in many different ways.

Pricing
Price wise, the total FORTI/SERTI package is about $379USD depending on the daily exchange rate between the Euro and the Dollar, plus the Vienna Suite and Vienna key. So the entire package, the Vienna Suite + FORTI/SERTI combo, is about $999USD, which is about $100 or so less than Vienna's MIR Pro.

Additionally, you don't need to have Vienna Ensemble PRO to use it, though depending on your system, you may find it helpful to have. But no matter how many tracks a composer's template is running, the Vienna Suite + FORTI/SERTI is a highly viable consideration.

Conclusion
This is our first look, really a glance at FORTI/SERTI. Next, we'll take a journey with Mr. Cholakis and learn how to do an actual orchestral setup using various libraries recorded in different places and spaces.

This article was previously published at the SonicControl website.