Steve Savage

Creating the hyperreal in classical recordings

The media world of the hyperreal

This paper, along with the audio clips and screenshots, explores practical applications of pop music mixing techniques to classical recordings. Pop music mixers such as myself regularly create "impossible" acoustical environments that are "more real than real" – to borrow from Baudrillard's notion of hyperreality. Ambiences are combined to create expansive soundstages that could not exist in the natural world. Aggressive use of compression and EQ along with dynamic automation adds to the hyperreal environment. For this project I have remixed a short passage from Stravinsky's *The Rite of Spring* (*Le Sacre du Printemps*) using some of these interpretive techniques. I have paid particular attention to how these techniques may be used to enhance Stravinsky's musical gestures, and in the process heighten the violent subtext of the passage selected. The program material comes from an original multi-track recording of the San Francisco Symphony. I used a Pro Tools Digital Audio Workstation (DAW) along with extensive 3rd party plug-ins to create this mix.

In the hyperreal world of contemporary media, virtual environments are created that often make "reality" (the natural world) pale in comparison. A teenager might feel like the most "real" experience, the one that had the most profound and personal effect on him or her – the experience to which they felt the most "connected" – was the video game they played that day. The rest of the day is gray or dull by comparison. In the same way, all kinds of "unnatural" effects are routinely used to create a sonic panorama that feels "larger than life". The result may be more exciting and engaging to the contemporary ear than anything that could be created in a naturalistic live performance setting, though live performances themselves often use digital effects to simulate the hyperreal world of recordings – a simulation of a simulation! So why not adapt these mixing practices to the classical music world, to recordings of the standard repertory? One might argue that recordings of standard repertory should be a refuge against such artificiality, but naturalistic recordings already exist. And, as has been critically pointed out for decades now, all recordings are forms of simulation and artifice anyway, including so-called naturalistic soundscapes. So why not consider alternatives that press the boundaries of acoustic environments? In the spirit playfulness and experimentation the following exercise was undertaken.

The project and first impressions

For this project I was able to obtain a short, multi-track section from a recent recording of *The Rite of Spring* by the San Francisco Symphony. This was a 24-track digital recording made by the symphony's Audio Director Jack Vad. The selection I chose was Part 1, Number 3 , "Jeu du rapt", translated as either "Ritual of abduction" or "The game of kidnapping". Although this had been recorded into a different DAW (Pyramix by Merging Technologies) we

were able to save the individual audio tracks as .wav files and because each track had the same start time I could import them into Pro Tools and they all lined up correctly. I got a track sheet from Jack and labeled the tracks appropriately in Pro Tools.

My first impression when listening to each of the individual tracks was that the tracking decisions had been made with a traditional sounding classical recording in mind (naturally enough). My sense was that the four primary tracks – two stereo pairs, a Main L/R and a Center Main L/R – were intended to make up the bulk of the final stereo recording with the rest of the tracks meant to be used for fill or as spot mics as needed. That is to say the additional tracks would only be used sparingly, as means for very slight rebalancing of the orchestra or for increasing the volume and focusing the sound a little bit on certain instruments in certain passages. The two stereo pairs were very wet (reverberant) with the sound of the natural acoustical ambience of the concert hall. The spot mics could be quite dry (with little ambience) but often the leakage compromised their usefulness – e.g. the timpani are so loud on the horn track that if you add more horn track to the mix you may be actually adding more timpani than horns.

This was not ideal for the project that I had in mind. If I didn't want to use much of the very ambient stereo pair microphones then I wouldn't always able to achieve a well-balanced overall sound. Increased isolation on the individual section mics, which would have required more mics placed in closer proximity to the instruments, and less ambient stereo pairs (again – more of them, placed closer) would have allowed for a more typical application of pop mixing techniques. Nonetheless, the multiple tracks did allow for a certain amount of individual processing. Given that this project was really just an exercise in creative possibilities and that I was not producing a final product intended for commercial release, I simply went ahead, accepting the fact that at times the balance was not going to be what I might ultimately have preferred. I could still demonstrate something of what might be done with a classical work mixed in the style of pop records.

Interpretive mixing

In my work as a pop mixer I employ an approach that I call "interpretive mixing". A great deal of interpretation goes into the mixing process because balances, timbres and ambiences may be considerably altered from their original performance and recording. These changes will alter the listener's experience of the individual instruments, the arrangement and even the composition. This aggressive attitude towards sound and ambience sculpting encompasses four general categories of manipulation.

1.) *Dynamic automation*. These are changes in balance between elements whose relationships are shifting in time to the music, remembered and repeated by the automation capabilities of the program. By altering levels, whole new perspectives on the arrangement may be produced. Sometimes dynamic level changes may be made that a musician would not be capable of actually performing on their instrument. These automation moves might

contribute to the kind of hyperreal musical moments suggested by "unperformable" occurrences.

2.) *Basic signal processing including EQ & compression.* These are the basic tools of timbre control (EQ) and dynamics control (compression). While these may be subtle effects, intended to either lightly enhance timbre or gently control dynamics, they may also be used in much more powerful ways. For example high levels of compression may be used as a sonic effect rather than as simple dynamics control, and dynamic EQ manipulation that employs automation and changes timbre over time may change instrument tonality and balance in ways that may not be possible for performing musicians.

3.) *Adding ambiences.* This may include the addition or enhancement of natural sounding room acoustics but also encompasses the use of unnatural or even bizarre ambiences such as non-linear reverbs and cascading delays. Different musical elements may occupy radically different acoustical spaces in ways that no live ensemble could possibly inhabit.

4.) *Special effects.* This category includes any number of acoustical simulations that may or may not reflect natural sonic occurrences. The use of intentional distortion from a simulation of the effects of electric guitar type amplification, and the application of modulating delays (chorusing, phasing, flanging and the like) fall into this category of special effect.

The practical and conceptual process

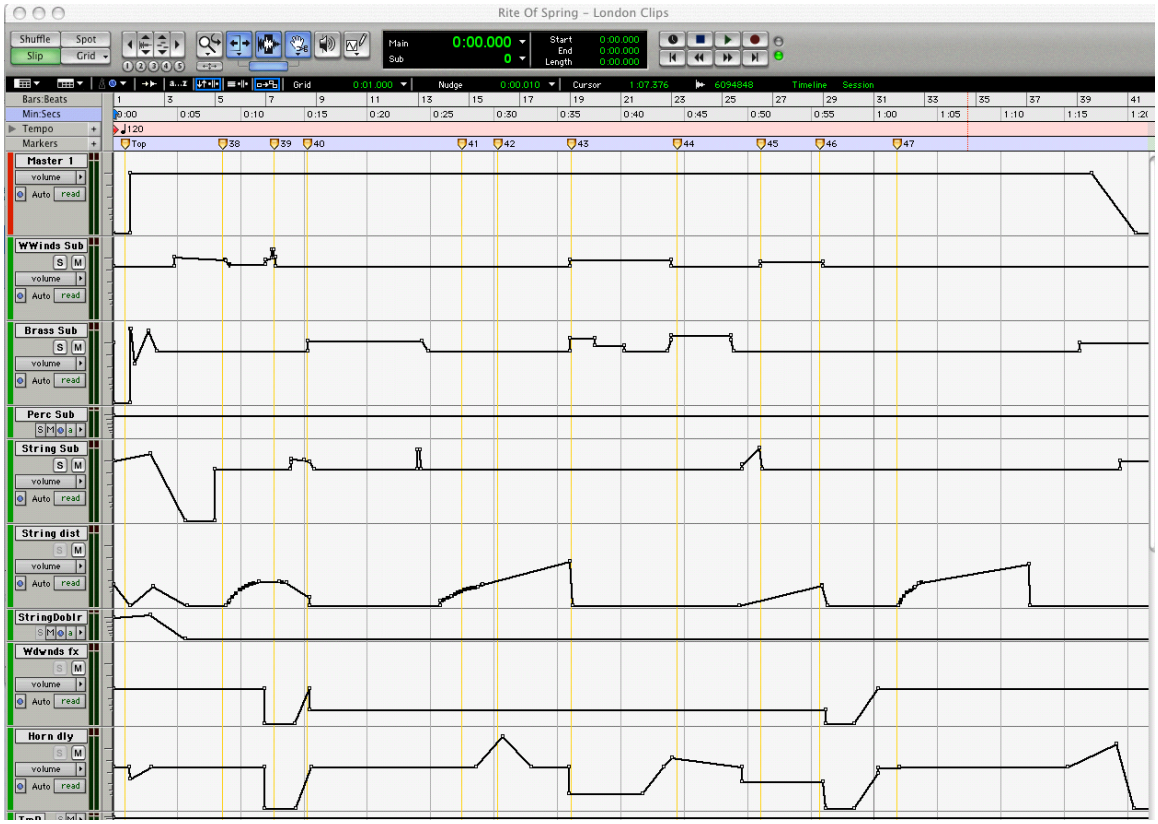
The connection to the San Francisco Symphony was initiated through my friend and colleague Lolly Lewis. Once the audio was secured I asked Lolly if she would like to collaborate with me on the mixing process. Lolly is an experienced classical music producer but she also has roots in the popular music world. She agreed to take part and we met on two occasions in May of 2006 to work on this mix. Lolly brought the score for *The Rite of Spring* with her and we began by putting in the rehearsal numbers so we could readily identify sections. We then made submasters for each of the main orchestral sections using all of the individual tracks associated with those sections, but omitting the two main stereo pairs that we only used lightly for general fill. The mixing process consisted primarily of working on the 4 submasters – woodwinds, brass, percussion and strings – and the effects desired for each section.

Lolly and I arrived at three primary goals in our preliminary discussion. We began by talking about the drums, as one might with a rock and roll mix. Lolly heard the timpani figures in this section working as heralds, in the way that horns often function in symphonic compositions or the way in which the celeste operates in some Bartok pieces. We decided to emphasize the timpani using typical kinds of rock and roll drum processing to create a more powerful, heraldic effect. Second we agreed that we would like to emphasize the violent subtext here – that subtext evidenced both musically and in the title of this section. I had already considered using some guitar amplifier

type distortion effects on the strings and we agreed that this might be an appropriate route toward reinforcing the disturbing undertones. Finally we discussed Stravinsky's use of gesture – here primarily in the woodwind figures, which Lolly described as a kind of "chatter" – and decided to try to heighten this effect. In order to create a more agitated sound in these chattering figures we agreed to try dynamic alterations of timbre to pull out some of the coarser overtones. I describe the results of our work as they were presented at the seminar, along with relevant audio clips and screenshots, below.

The Rite of Spring "Jeu du rapt" mix

To begin the audio presentation for this paper I played our completed mix of this section, "Jeu du rapt" from *The Rite of Spring*, which runs slightly over 1 minute [Click on speaker icon to play clips]. As the audio played I displayed the Pro Tools mix window so the audience could watch the fader movement that was generated by the dynamic level automation. Pro Tools automation can be created either in real time, using fader or other controller movements to record changes, or off-line, using graphic representations to control changes. The graphic representations of some of the most dynamic level automation in this mix are indicative of some of the very active automation effects.



Graphic representation of dynamic level automation.

I then isolated a couple of the timpani hits just past rehearsal #46 to demonstrate the kind of drum processing used. A particularly aggressive kind of compression, along with two different reverb type ambiences and one delay line were used on the timpani. I noted how we isolated the timpani on their individual tracks by muting all the audio except where the timpani played so that any additional sound leakage from these tracks wasn't being continually fed to the processing. The effects of this isolation of the timpani sounds a little strange when listening to the individual track as one hears the audio go to silence between timpani hits, but in the context of the mix this is not heard and it is typical of the "cleaning up" process used in popular music mixing of drums. I demonstrated the use of compression, playing the isolated timpani in their compressed and uncompressed versions. I noted how much more natural the uncompressed version was – more true to the acoustical sound of the drums – but how much greater impact the compressed version has. We were using a new compressor plug-in called Smack which is capable of a particularly aggressive sounding compression effect. When used in this way compression creates a kind of explosiveness out of the original sound by containing the audio energy and releasing it in a compacted form.

The compressor plug-in Smack (by Digidesign) as set for use on the timpani.

For ambience on the timpani we used two different reverb effects and one delay effect. The first reverb was a non-linear type reverb that simulates a typical reverb ambience initially but then truncates the decay portion. Here we are simulating the ambience of a large space, including the use of a long pre-delay time typical of large acoustic environments, but then the reverberation simply stops after the initial cloud of early reflections and delays. I call this the Grand Canyon effect without the Grand Canyon. You get the sense of a very large space without the messiness of the long reverb tail hanging over and clouding the subsequent audio.

The reverb plug-in used for the non-linear reverb effect. Renaissance reverb by Waves.

In order to soften the abrupt nature of this effect we then added a smooth, natural sounding reverb, though one from a smaller acoustical environment. This particular reverb is created using the recent impulse response technology that samples actual acoustical spaces and makes the reverberation characteristics available as ambience effects. The ambience we used is a re-creation of the space at Nashville's Belle Meade Church.

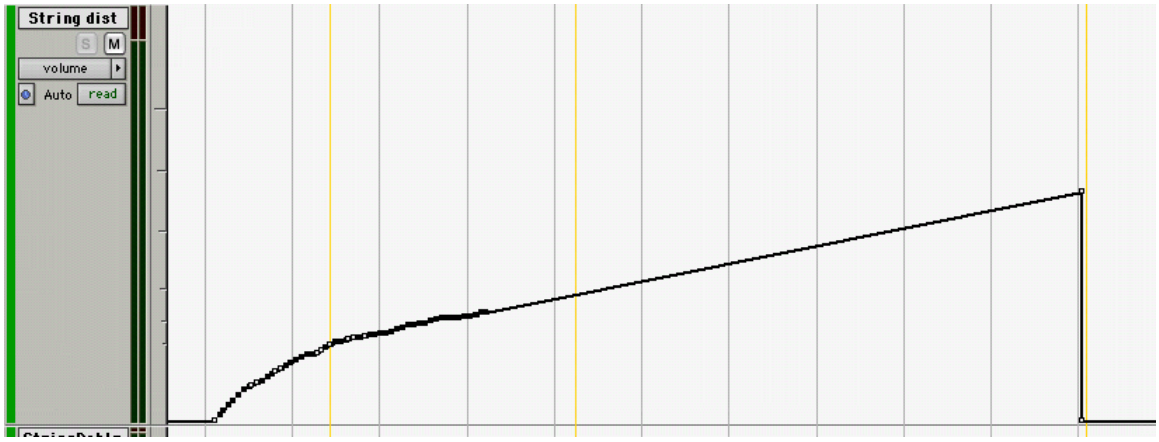
The sampling-type reverb plug-in used for the natural reverb tail. IR-1 reverb by Waves.

Finally we added a little bit of a long, repeating single-tap delay. This also simulates the effects of a very large acoustical environment although this effect would never actually occur in nature with this much clarity or precision. Only a very small amount is used to help increase the sense of space, without being too obviously audible so as to avoid the distracting effect it might have if it was easily heard (though we did use some obvious delay effects at other points in the mix). The complete effects package on the timpani then includes the compression, two reverbs and delay. Together they create a the large, explosive drum sound of the kind often heard in rock and roll – and perhaps appropriate to Stravinsky's use of the timpani here as heralds.

Next we addressed the possibility of using distortion on the strings to increase the violent subtext. Using a guitar amp simulator we created distortion on one of the string figures.

Guitar amp distortion simulation plug-in. Amplitube by Digidesign.

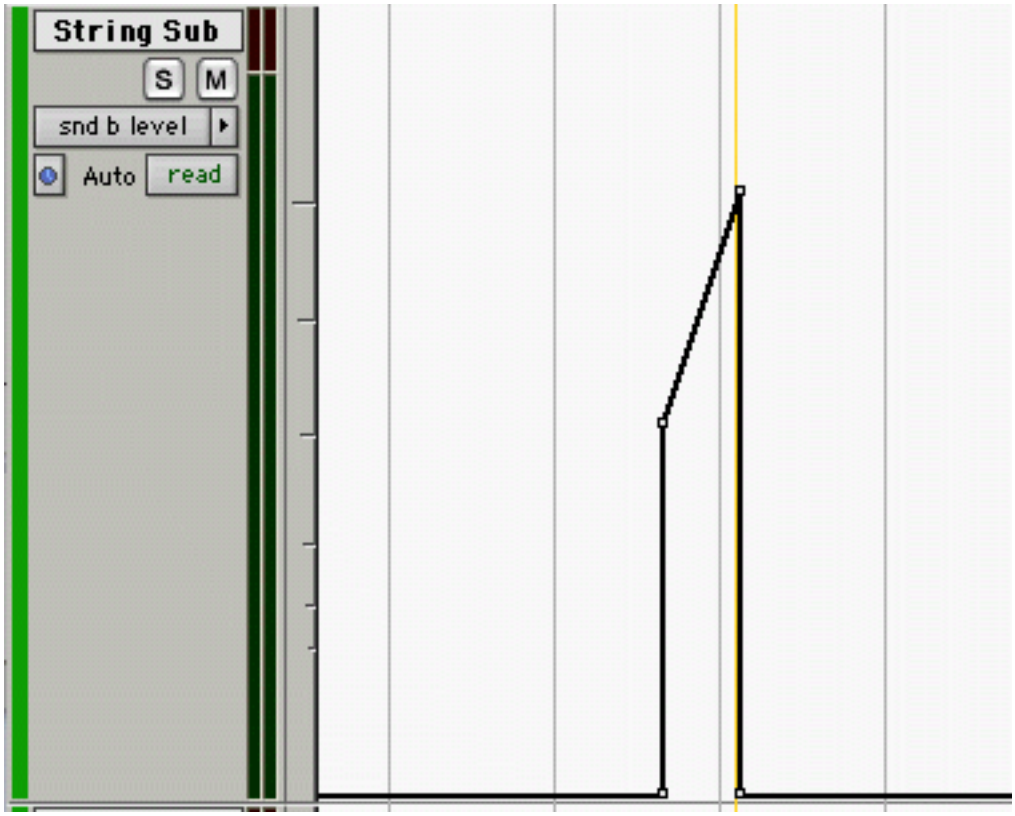
In experimenting with this effect it seemed that the most effective and alarming way to use the distortion was to have it slowly build over the course of the figure. This was done by automating the return of the effect and slowly increasing its volume. The result, heard in isolation, is quite harsh sounding, as intended.



Graphic automation of slowly increasing distortion effect.

Listening to this in context we liked the effect but we felt that at the point at which the string figure ends, the transition to the subsequent horn figure was a little too abrupt. We didn't want to put reverb throughout the string figure – we liked the dry, wiry sound of the distorted stings – but to soften this transition we added a large wash of reverb to the last note of the string figure. This was accomplished by automating the send level from the

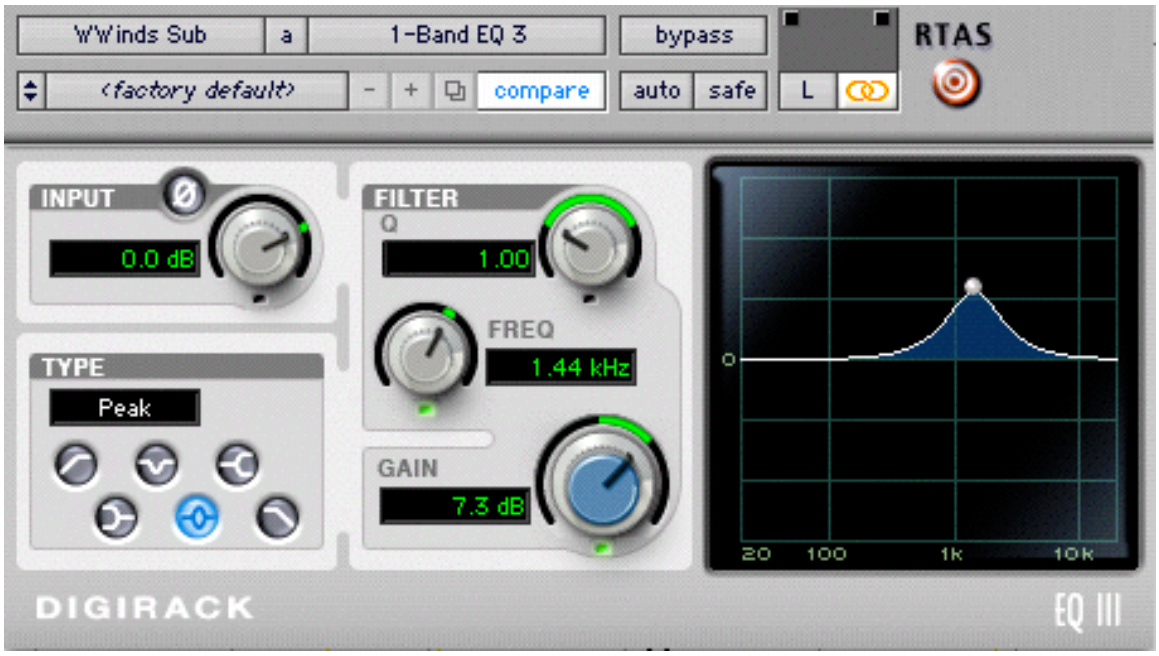
string submaster to the input of the reverb, only allowing audio to be sent to the reverb on the last note of the figure.



Graphic automation of the send level to the reverb at the end of the string figure.

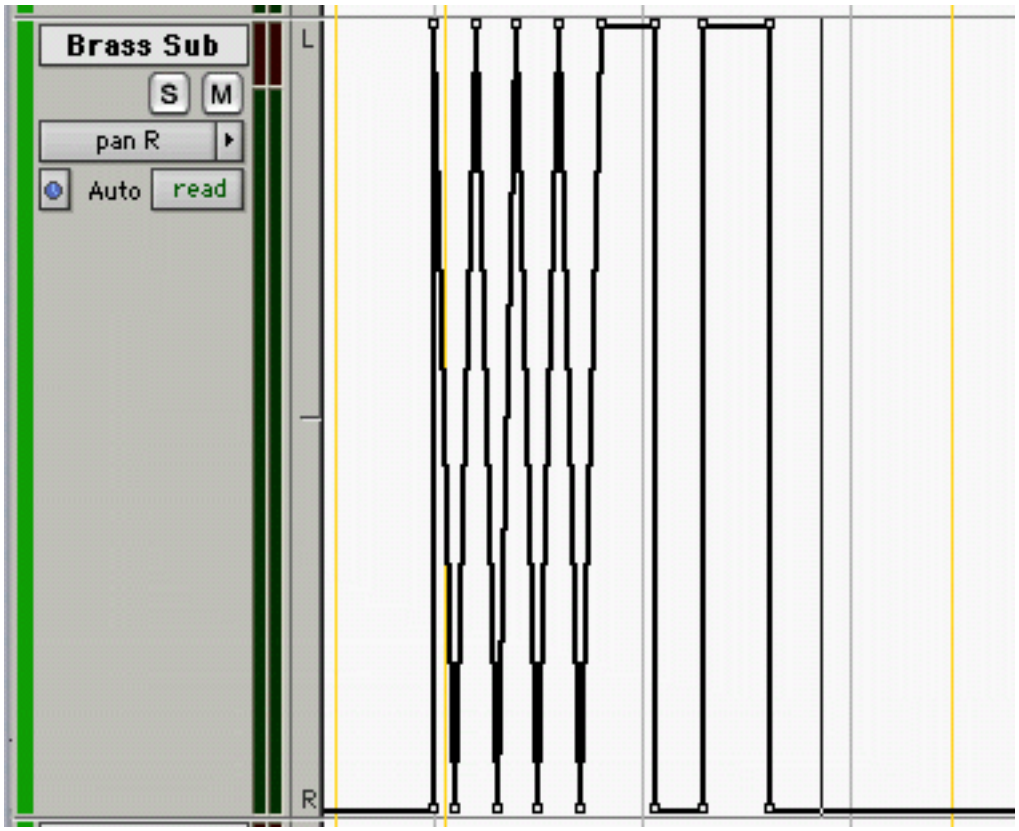
The final version, played here in context, created the ominous effect we were looking for in the distorted strings without producing too jarring an effect when transitioning to the next section.

To address the desire for more agitation in the "chattering" figures we created dynamic changes in timbre by automating an EQ plug-in implemented on the woodwind submix. I can't show the movement on the EQ's frequency gain control without video capabilities (not available for this posting) but you can see the EQ that we used and clearly hear the effect in isolation versus the figure without the effect. The sound of this movement in context was subtle enough not to feel too out of place, but certainly audible enough to raise the level of tension in the figure.



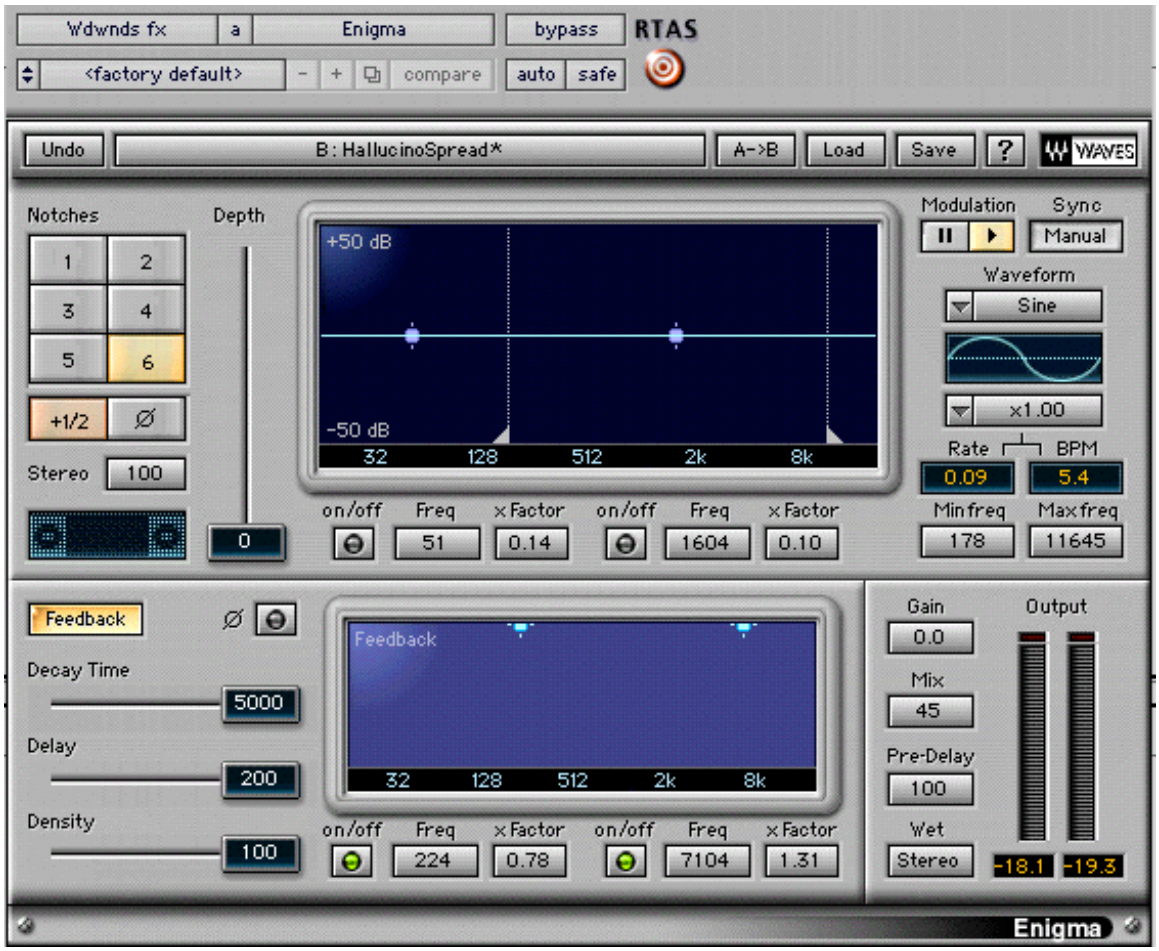
EQ used for dynamic automation of the presence peaks on the "chattering" figure. EQIII by Digidesign.

Finally we played with some other effects as one might in the interpretive mixing process of a pop song. We added an auto-panning effect to the horn fanfare at one point, moving the horns quickly back and forth from left to right in the stereo image. This effect is audible in the speaker system playback but it is heard much more acutely in headphone monitoring so we sometimes refer to this kind of special effect as "headphone candy." Again, I can't show the dynamic movement without video but here is the graphic representation of this pan automation and what the effect sounds like in isolation. For the full effect listen to this clip through headphones.



Graphic automation of panning effect.

We also added a wild kind of modulating delay effect to the figures at the end – these punctuation figures would be called "stabs" if played this way in the context of an R&B horn section. Here's the plug-in used to create this effect and the sound of the effect in isolation.



Plug-in used to create modulating delay effect. Enigma by Waves.

To end my presentation I replayed the entire passage so that the audience could listen again in the context of the process that I had detailed.

Final thoughts

As to what one may make of this particular mix I must leave that to the judgment of each individual listener. I would, however, remind you that this is not intended as a final product, that our goal here was to simply demonstrate possibilities rather than trying to generate a unified or final mixing concept, and that we were working under certain limitations regarding how the original recording was made. Nonetheless we hope that listeners will find the results interesting and intriguing, and that some might even find them pleasing as we do.

Might this kind of mixing open up this music to ears that are steeped in the hyperreal sound of pop music recordings? Could mixes such as these help to reinvigorate the classical music market? I can't answer these questions but I hope this project will stimulate further investigation into both the creative and commercial potential of such explorations.

CREDITS

"Jeu du rapt" from *The Rite of Spring* by Igor Stravinsky.

Performed by The San Francisco Symphony (Music Director, Michael Tilson Thomas. Audio Director, Jack Vad).

Recordings made 21-23, September 2004 at Davies Symphony Hall, San Francisco. Used by kind permission of the San Francisco Symphony.

Mix engineered by Steve Savage, produced by Steve Savage and Lolly Lewis.

The complete San Francisco Symphony version of this recording of *The Rite of Spring* is part of a major educational initiative by the SFS called Keeping Score, and depending on when you're reading this either will be or already is available on DVD. For more information visit: http://www.shopsfsymphony.org/ and http://www.keepingscore.org