

## Motivation

Since I began building guitars over twenty years ago, I have always been trying to improve my art and produce the best classical guitar possible. I have honed my skills by building over 800 guitars using some of the most respected designs such as Fleta, Torres, Ramirez, Bouchet, Bernabe, Santos and others.

Besides these more traditional models, I was also intrigued by the power and sustain of the revolutionary Smallman lattice-braced design. I wanted to incorporate those attributes into the classical guitar without using synthetics. And so, over the last two and a half years, I've been experimenting with new bracing designs and natural bracing materials that could help me achieve my goal.

## Art Meets Science

During this time, I was fortunate enough to make the acquaintance of Virgil Rochester, a self taught player and guitar enthusiast. Although Virgil had no formal training or experience in building guitars, he was also interested in how to improve the volume, power, projection and sustain of the traditional classical guitar without the use of synthetics.

Besides being a guitar enthusiast, Virgil has a formal education in mathematics and an extensive background in the Information Technology, physics and engineering disciplines obtained during his career with SAIC, TRW, and Booz-Allen & Hamilton.

I began collaborating with Virgil on bracing designs. He provided me with a modified, all wood, lattice bracing design, which I used to build a prototype. The results of that build were good and it had good intonation, color, and response. However, it lacked the power and dynamics that we were looking for. We both knew at that time that it was time to go back to the drawing board and Virgil went off to perform research on woods for bracing material, as well as bracing designs that would meet our design objectives.

During the next several months, Virgil developed new bracing patterns that were far from traditional and contrary to what I had known and worked with throughout my career. Virgil showed me the purpose of the design configurations and explained how they would contribute to the uniform propagation of the sound waves, as well as provide balance in the basses, mid-range, and trebles. His bracing designs were very strong and light (to increase the dynamics in the top, and thus provide more power, projection, and sustain).

Prior to my first series of production builds, Virgil collaborated with David Hunt, a physicist and metallurgical engineer, and Steve Kerrin, an engineer by profession with a formal education in Microbiology. Dave assisted Virgil in evaluating the designs and bracing material for sound propagation and stability, and Steve contributed his test lab and workshop for the building of the initial proof of concept prototypes.

Over a period of approximately one year, a total of three prototypes were built to arrive at the current

design. This design was used to build the first set of production models of the Hippner Helion (or Hippner Helio-Millennium) series.

This new design has resulted in a guitar with power, response, volume, projection, sustain, deep basses and sumptuous overtones to please the most discriminating of players.

## **Design Principles**

The Helion Starburst is based on this principle and incorporates a unique mechanism, called the "radial-roundhouse", for coupling the bracing structure to the center of the bridge where the energy of the strings is conducted through the bridge to the "radial-roundhouse" and outward through the bracing structure to the sound top in a uniform pattern resulting in increased dynamics. This provides for a rapid response with increased volume and sustain, along with clarity, separation and rich overtones.

The bracing for the Helion Starburst (both Symmetrical and Asymmetrical models) is based on a physical dynamic that most of us are familiar with, namely the dropping of a pebble into a calm pool of water and watching the concentric waves move uniformly away from the point of entry outward.

The bracing structure for the HexRad is significantly different and designed to emulate, in one design construct, the attributes of three different types of speakers, namely the tweeter, mid-range, and woofer. In the context of the guitar, these are the basses, trebles and mid-range. It does this by using a bracing construct that is extremely light and strong and that provides for different levels of stiffness in the bracing design moving outward from the bridge.

## **Where We Are Now**

Two of the models, the Asymmetrical and Symmetrical Helion Starburst, are currently being evaluated by Ricardo Cobo and Foti Lycouridis, respectively. The other model, the Helion HexRad, is being evaluated by James Manuele. (James Manuele and Foti Lycouridis comprise the Portland Guitar Duo.)

What follows are several of the comments received from players about the new designs...

### ***Ricardo Cobo***

**March, 2015**

*"I'm loving the guitar and its complex sound."*

*"The raised fingerboard and quick response make it a joy to play."*

*"It's very similar to my spruce Humphrey, however it has thicker trebles and is easier to play."*

*"The more I play this guitar the more it coalesces and focuses the sound. It has opened up and become noticeably louder today. The sound is spectacular."*

*"The guitar is opening up even more as I play. The difference between a carbon-braced Smallman that I have here and this guitar is educational to say the least. The basses actually sustain longer than my 58 Fleta. I may have to use this guitar to record in May."*

*"Virgil – I appreciate your sending me Foti's message to Darren. There is certainly positive agreement among us that these guitars present a completely different level of response. Adding to the obvious changes in volume and sustain (2 of the non-negotiable requirements of great guitars), is the quality of the harmonic tail in the tone and the superlative fundamental in each note. My kids call it 'fat tone.' The elevated fingerboard is a Plus for me for obvious reasons. However, the upper scale (12+) in this guitar does not thin out Or narrow. Intonation is perfect as per my Peterson tuner, and if anything, the scale response is very sensitive to lateral movements and vibrato. What a pleasure to play this guitar."*

#### **April, 2015**

*"The asymmetrical design is unlike anything I have heard in a couple decades. I have been playing this guitar all night. I can't put it down. I'm taking a break before starting another long session."*

*The voice transparency and easy separation of countermelodies as I think through my playing is a beautiful thing. The guitar is balanced so thoroughly through the fingerboard, I cannot distinguish a single tone weakness in the scale. I can push into the guitar any musical device and the sound responds in detailed realization, be it a long bassline in a Ponce prelude, or the textual separation of Bach counterpoint voices.*

*The guitar has layers of coherent dynamic voicing that can be connected convincingly by clear and musical thinking - this is such a pleasure. The instrument conveys structural confidence and support to the player without the fake coloring of carbon materials and other synthetics. The sustain is real, organic, and effortlessly displays the fundamental. It is a sound that focuses the listener on the essence of the player's sound and not the guitar's particular sound signature – this is quite an accomplishment and deeply inspiring to me as an artist.*

*The arrival of this guitar has moved me to redefine my playing on a higher level. This happens very rarely, and I cannot begin to express the joy that this brings to my work."*

#### **December, 2015**

*"I confirm it every day – the design and sound signature of these guitars is a significant departure from conventional guitar sound"*

*"It makes you want to play all day."*

*"It's a captivating and responsive musical design"*

*"This will change the way guitarists listen and Taylor their playing"*

*"This will change the way guitarists listen and Taylor their playing"*

*"Gordon's clip confirms the dynamic level of the design."*

*"It fills the room... With substantive heft and clarity."*

*"It's 90 percent humidity here and [Hippner Guitar] 824 sounds better than the Baldwin grand piano in the house"*

*"Deep, luxurious power - you would be floored"*

*"Low D tuning sound is rich and glowing"*

*"It really calls on me every day."*

*"The color, depth, complex response, bewitching sound."*

*"It's a joy to play it."*

*"It rings through one's head and torso. It's definitely a high-end musical tool for the skilled player."*

*"It will move with anything you throw at it."*

*"I have changed fingerings and technique for certain passages because you can get away with more stuff, without the guitar coughing out blood."*

## **The Portland Guitar Duo**

### **Foti Lycouridis**

*"First, I want to thank you for sending us your new instruments. It is a privilege to play them, I really appreciate the gesture on your part. I have played mine for a few days now and can say it is a remarkable guitar. It is opening up every day and it has a lot of volume. The voices are very separate, almost like a piano, both trebles and basses are clear and focused and the mid range has a complete character of its own."*

*It is a lot of fun playing this guitar. It is quite different from what I usually play, my main instrument is a 1940 Hauser copy from Gary Southwell.*

*Yesterday we took the guitar to another guitarist and former teacher of ours, Jeff Ashton and he commended very favorably on it as well.*

*We plan to take your guitars on tour in California next month and showcase them as part of the concert. We will try to play them at the April meeting of the Portland guitar society. I also want to show them to a few more guitar players here. Keep up the good work."*

## **James Manuele**

*"Being asked to evaluate luthier Darren Hippner's new series, (Helio-Millennium), has been an honor and an education. As a concert guitarist I grew up listening to older masters such as Bream, Williams, The Romero's, Ghiglia, Parkening and Segovia, to name a few. The sounds of Hauser, Fleta, Ramirez, and Rodriguez, were the pinnacle of a great concert guitar and I believe still are.*

*What defines a great example of a classical guitar is subjective, although there are several factors that guitarists want or demand to have in their instrument. Classical guitarists are by far the most demanding and critical of their instrument, possibly more than any other guitar genre of players due to the history of repertoire, and the diverse color and dynamics the classical guitar can produce.*

*For myself, very simply the guitar needs to keep my interest while music making. My instrument must change as I play it, as a conversation will change between two people.*

*This new series of Hippner guitars does just that. I have owned and played some of the great makers previously mentioned, and have found the Hippner Helio-Millennium guitars retain the tradition of the old school sound, using no carbon fiber, nomex or any other artificial material in building these guitars.*

*These new guitars have balance between the trebles and basses, the basses are deep and resonating not flabby which will provide clarity in voicing. The mid-range from the 7th fret to the 12th is superb, giving to a colorful G string. At times I think I'm playing a cedar top because of the fat sound being produced from the mid-range which sometimes spruce guitars lack. The higher register is very clear with excellent sustain, having a very impressive 1st E which is a must for all concert guitarists. In addition, these guitars have great power that carries well in a concert hall. The fundamental note is quickly followed with colorful over tones.*

*As a player you must change your technique and sensibility for different guitars in order to bring out their best. Some guitars may cater to certain styles of music. These guitars sound amazing with the Spanish standards of Granados, Defalla and Albeniz as well as piano and key-board transcriptions of Chopin, Cimarosa, and Bach.*

*The accessibility and intonation of these guitars are great. It is always a pleasure to pick it up and begin my warm up, and I can't wait to start a piece.*

*As an ensemble player with the Portland Guitar Duo, we are very excited to have two of Hippner's new series with future projects scheduled ahead. Our sound is different and exciting.*

*We have decided to be ambassadors for Darren and his new guitars. It is a very exciting time*

*for classical guitarists to have access to new makers, and new compositions to play.*

*Congratulations Darren on your new builds."*