

Recuerdos de la Alhambra
Reflection on Visiting Alhambra Guitars



In the morning of Monday, July 1st, our UTD Guitar Ensemble gathered near the Gandía Conservatory of Music to prepare for a day-long visit to the Alhambra Guitars workshop. Jorge, Alhambra’s Director of Marketing, arrived a few minutes after 9:00 a.m. in an 8-person van to drive us to the factory, which is situated in the mountainous region of Alicante, about an hour’s drive from the coastal town of Gandía.

As we drove through scenic Spanish countryside, we learned the rationale behind the factory’s remote location. Guitars (particularly high-end carved guitars) react strongly to changes in temperature, humidity, and pressure; the mountains near Alicante are geographically and topographically isolated from the violent weather fronts that sweep through the more exposed regions of Spain.¹ We also learned that the original Alhambra workshop was established in Alicante generations ago.

I would like to take a moment to highlight this last point. Unlike the company’s large-scale competitors², Alhambra comes from the tradition of

¹In fact, the very weekend we arrived in Spain featured one of the worst of such weather fronts—gusts of hot air from the Sahara had swept into Spain, causing temperatures throughout the country to reach 100°F. We learned that the Alicante region remained largely untouched by this extreme.

²Large-scale manufacturers like Yamaha, Ibanez, Dean, etc.

artisanship and personal touch when it comes to manufacturing guitars. Although the company generates a comparable number of guitars as these large-scale counterparts³, Alhambra's machinery (which are custom-designed and programmed by engineers for Alhambra) conserve traditional modes and ethics that go into the manufacturing of guitars. Before a guitar is placed in plastic and boxed for pre-shipment, each guitar experiences a good deal of human interaction. Even the student models, while differing in the material of high-end carved instruments, undergo similar treatment as the carved instruments.

The tour began with the most fundamental ingredients of the guitar: wood. We were taken to a huge warehouse full of exotic wood imported from all around the world. Here we saw what fundamentally differentiates high- and low- end guitars: the quality of the wood that makes them! *Quality* is defined by the granulation of the wood. The more parallel the wood's grain, the better. Any knots or lumps in the wood cause for the dampening and deadening of vibration, which characterizes cheap guitars. I do not recall the figure Jorge provided when asked the net worth of the wood in the warehouse; however I would guess it to be in the tens of millions of dollars. Among the most exotic woods we saw was a heavy ebony wood imported from India. We also saw woods from Africa, South and Central America, and East Europe. I realized then that a guitar represents a confluence of resources from the entire world—a guitar truly sings for Earth!

We continued into the cutting station of the factory, where the basic shapes of the guitar are machine-cut. To ensure that guitars with accurate and precise dimensions are produced, Alhambra has employed cutting-edge⁴ laser-beam technology, which has the capability of cutting wood to microscopic specifications. If one concedes to the notion that the dimensions of the individual pieces of a guitar determine how well the pieces sit next to each other and transfer the energy of vibrations, then Alhambra has outdone century-old guitar makers who lacked the ability to make such hyper-fine measurements. It was in this section of the factory where we learned what makes high-end carved guitars so valuable: their wood (including the curved sides of the guitar) is completely carved! Jorge (and the manufacturers at the carved-guitar station) This station flowed seamlessly into subsequent stages, which slowly began putting the guitar together.

As we made our way through the factory, we discovered several "bottle-necks" in the manufacturing process. Yet Jorge assured us that while such

³According to Jorge, Alhambra outputs 40,000 guitars per year. Their main challenge is not the manufacturing of guitars but rather the selling of their yearly output. Alhambra is always looking for new vendors and populations to serve worldwide.

⁴pun intended

”bottlenecks” exist in the assembly line, the company has maximized its efficiency with its current number of employees and resources. One such ”bottleneck” was the ”gluing” station, where the thin resonant fronts and thicker backs of the guitars are glued to the guitar’s sides and neck. There were only a handful of guitar-shaped clamps⁵ with which the guitars were glued; yet there were hundreds of guitar parts being manufactured in previous stages of the assembly. The fretting station, where each guitar is consummated with a set of frets, proved to be a similar backlog, with only two workers fretting guitars at the time of our visit. This is one lingering question I wish I had asked Jorge: if the rates of manufacturing we observed on our visit represent the daily rates of manufacturing for all departments, then surely there would be backlogs in the assembly line behind each ”bottleneck” step. Where are the backlogged guitars stored? The factory floor was packed with racks of guitars-in-the-making, but even the number of such racks seemed small considering the factory’s high ratio of elementary parts⁶ to final guitars⁷.

We then visited the section of the factory responsible for the varnishing and polishing of the guitars. The majority of the guitars are varnished by hand. The artisans use large, sponge-like brushes to apply a secret combination of lacquers and finishes to the guitars. To assist with this stage, the guitars are kept for days in a rather small room with extreme temperature control⁸. We entered the room, which was designed like a refrigerator⁹. I would approximate the humidity content of the air to be *very* low and the temperature to be near 65°F. The situation was similar the air at the summit of a mountain in the summer: the surroundings (the rest of the factory) are warm and humid, but the peak (this isolated room) remains cool and dry.

Around this stage, we were given a glimpse of a modern application of technology to the manufacturing of guitars. A large robot with one robotic arm took a guitar at a time and completed the sanding and varnishing procedures in a small fraction of the time it takes for human workers. Jorge told us this very technology is used in car-manufacturing plants. I was a bit shocked to see just how rapidly the guitars were handled when under the robot’s domain. The robotic arm’s motions were very jerky and seemed to accelerate the guitar under short periods of time. I wonder if these jerks affected the integrity of the guitars who undergo this procedure.

⁵maybe 5-10 such clamps

⁶Thousands of bridges, fingerboards, nuts, saddles, etc.

⁷Surely no more than fifty to a hundred guitars are glued and fretted in a day.

⁸Here is another ”bottleneck.” There were at the most perhaps two hundred guitars in this room; yet there were thousands of guitars waiting to get into this room!

⁹The intention being to insulate the room maximally, thus conserving the energy it takes to dehumidify and cool such rooms.

We finally came to the stringing and boxing of the guitars¹⁰. Jorge revealed that Alhambra orders something on the order of 10^4 nylon strings from D’Addario every year¹¹. The guitars are then tuned and quality controlled before being tagged, catalogued with bar codes¹², and boxed.

One highlight of the visit was the chance to play some of the Alhambra’s finest, carved, concert model guitars in their showroom. Several members of our ensemble took the opportunity to try out these guitars. Playing such well-crafted guitars was a sublime experience.

The visit to Alhambra Guitars has made me appreciate all that goes into creating an instrument. I now regularly thank the various parts of my guitar—the woods, the metals, the strings, and the people who made it happen—any time I sit down to play.

I hope Archie’s Guitars, a local guitar store on Belt Line and Central, will be able to take the lead in developing Alhambra’s presence in the DFW area. I look forward to the next time I can play (and perhaps one day purchase) an Alhambra guitar.

—Chirag Gokani

¹⁰Another rather slow stage, although rather large machines were used to aid in the stringing of the guitars

¹¹Alhambra exclusively suites each guitar it sells with D’Addario nylon strings.

¹²Alhambra takes pride in this revolutionary mechanism of cataloguing each guitar. If a guitarist has an issue with his or her Alhambra guitar, he can send Alhambra his bar code for a complete report on who manufactured the guitar, as well as the dates and precise times at which the guitar is manufactured. I gather that several other instrument-making companies have recently adopted this technique, with Alhambra quite likely at the lead.