

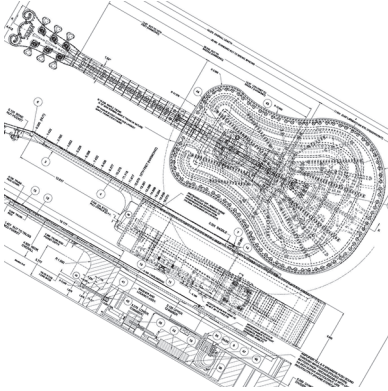


FOLDED HORN GUITAR

*History, Technology,
and Opportunity*

The Folded Horn Guitar Project is Dedicated to
Creating a Sounder Future for Guitar

History



As engineers and innovators, our drive is always to find design solutions for complex problems. And that's exactly what we've done with the **Folded Horn Guitar**.

Years ago, we asked the question: Why is an acoustic guitar not loud enough when played with other acoustic instruments? How can it be made louder based on the beautiful sound of a wood instrument, not just played through an amplifier?

Audio enthusiasts know that Folded Horns have been used successfully in high-end audio systems for decades. Until now, nobody had figured out how to put them in guitars. We did.

And that is how the Folded Horn Guitar came into being.

Several years of technical design, prototyping, and some basic trial and error got us to the point where we had a patentable idea. After a grueling period of documentation and planning, the first patent for the Folded Horn Guitar was issued (U.S. Patent #10,177,172).

Since that time, there have been three additional patents for:

- ◆ Floating Soundboard Acoustic Guitar (Granted)
- ◆ Acoustic Waveguide Guitar (Granted)
- ◆ Acoustic Waveguide Grand Piano (Published)

Our first prototype instrument demonstrated proof of concept very well. While it visually lacked the appearance of a finished guitar ready for market, it has been played and recorded over and over again with amazing results.

Now we are in the process of building additional prototypes in a more finished state as we begin moving to the next big phase of this project.

It's been an incredible journey so far, and we're just getting started. There's much more to come...



Technology



How Does It Work?

The holy grail of acoustic guitars has always been those described as “Cannons” — guitars with great power, that still maintain their beautiful tone. Our guitar carries on that tradition with 112 dB coming from the guitar itself.

To accomplish this, we utilize two internal, machined folded horns (waveguides) built into the acoustic guitar body with drivers and electronics. Our Folded Horn technology dramatically increases volume while substantially enhancing tone in acoustic guitars.

Capturing the Acoustic Sound

Each left and right horn is five feet long. The acoustic sound is captured by a magnetic pickup under the strings, and a piezo pickup under the bridge saddle, above the guitar upper chamber. This combination is critical for great sound. A sound hole microphone is also an option.

Speakers (Drivers)

The sound is then sent to an amplifier (internal battery powered or external), which sends the signal to left and right full range speakers inside the guitar. These are mounted to the compression chamber at the start of each folded horn (inside the guitar’s sealed lower chamber, to avoid feedback).

Left and Right Folded Horn

The sound then travels through the throat of each five-foot-long folded horn, which increases in size as it reaches the mouth of each horn. The sound waves are concentrated throughout this shape (while not losing sound energy), and are directed to left and right exits out the end of the guitar.



How is the Guitar Designed?

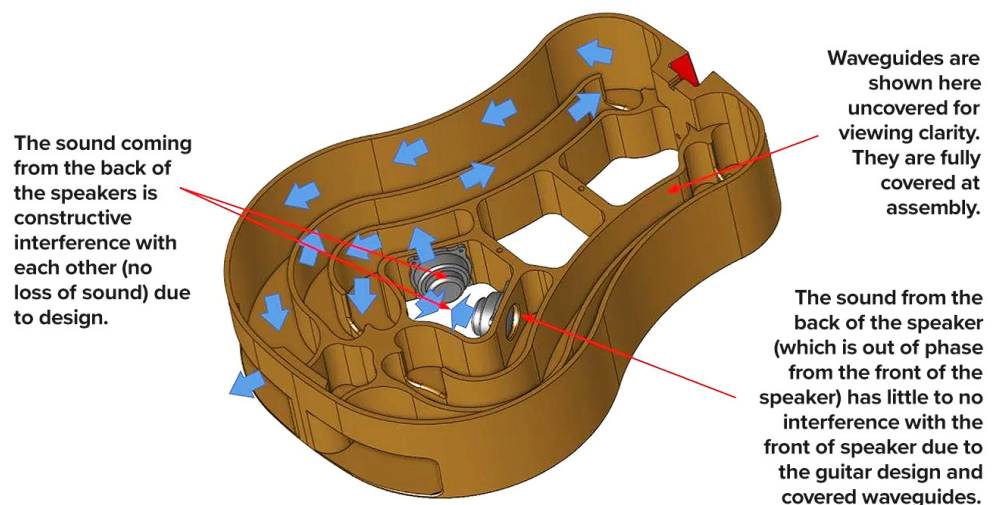
The Folded Horn Guitar is a **two-chamber instrument**. The lower chamber contains the sealed waveguides, drivers, and electronics. The upper chamber offers the traditional acoustic sound with a variety of optional pickups that feed the signal to the lower chamber drivers.

The guitar body and soundboard of this guitar are three inches longer. As a result, the soundboard is louder and the natural sound from the upper chamber provides much of the great tone of this instrument in addition to the drivers and folded horns.

Each folded horn is five feet long, which captures the lowest frequency of the guitar (80 Hz). This cannot be done with small speakers only and without the horns.

An 80 Hz wavelength is actually 14 feet long. The speed of sound is 1,125 feet per second, divided by this frequency of 80 Hz gives us a $\frac{1}{4}$ wavelength of 3.5 feet. Horns that are 5 feet long easily capture this wavelength with room for side ports — and will not break the $\frac{1}{4}$ wavelength rule.

Below is a diagram that explains the flow of sound from the lower chamber (waveguides) of the guitar

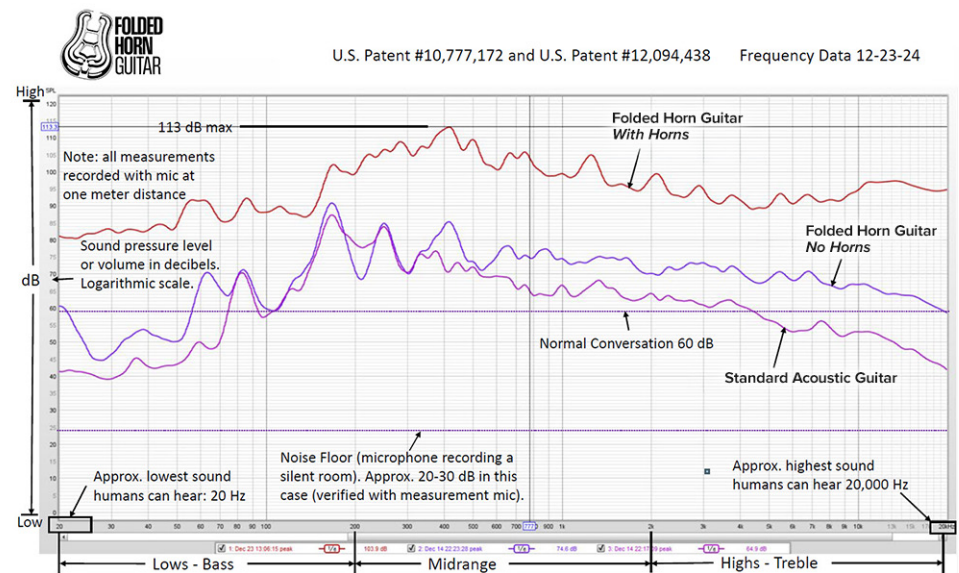
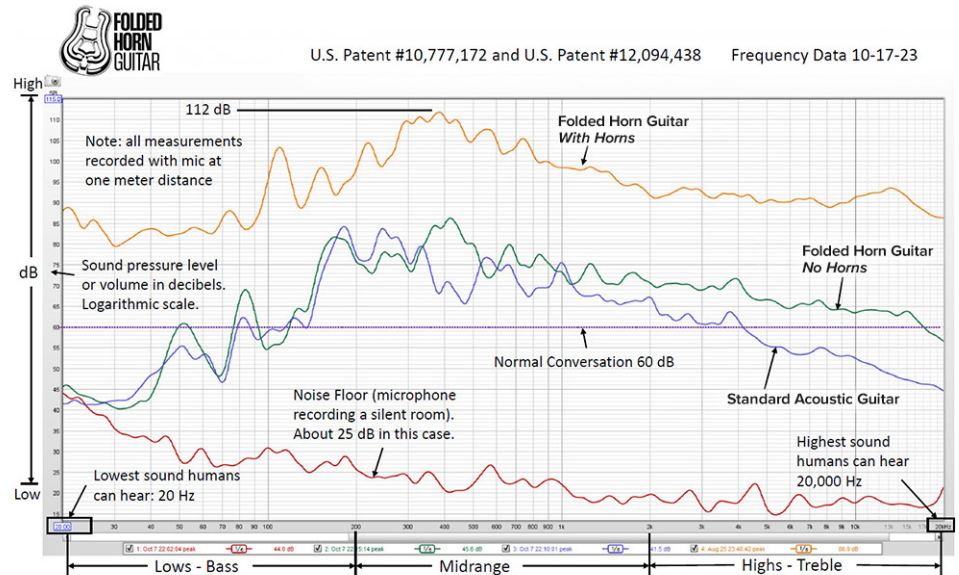


U.S. Patent #10,777,172 and U.S. Patent #12,094,438



What's the Difference?

Using Prototype #1, we've done some testing along the way. Below are some of the documented results...



You can listen for yourself to our demo videos that were created using Prototype #1 that are now available for viewing on our website at foldedhornguitar.com.



Opportunity



How Will the Guitar Be Built?

Two prototypes of the Folded Horn Guitar have been built so far primarily as proof of concept. Neither of these instruments adequately resemble a finished guitar ready for market. That is not their purpose.

Currently the body of the guitar including the horns is created by CNC machining. It's a slow process since it is cut from a block of Hard (Rock) Maple. The basic design, however, allows for a number of different configurations. Our patents cover a variety of manufacturing methods.

As a result, during this phase of our rollout, we are evaluating all of those possibilities based on feedback we are getting from our current outreach efforts. Because of our deep connections within the guitar-related industry and community, we are looking forward to robust discussions on our path to market.

Who Will Build the Guitar?

The Folded Horn Guitar will likely evolve into multiple forms with different styles and applications. While it could be built by a single source, it is very possible that it may come to market through several different sources with unique specialties.

What Is Our Role?

We created the project. We brought it to life. We are shepherding it to market. We will provide expertise and market guidance as needed, where needed. We will do whatever it takes. But we will not do everything. That is not our goal.

Our goal is to create and nurture the Folded Horn Guitar ecosystem for the benefit of all stakeholders.





What Is Your Role?

And this is where it gets interesting. You may be a future owner of a Folded Horn Guitar. As such, you are probably the largest number of people reading this document. Your support and interest going forward is vital to the success of this project. And you can be assured that new developments will always be coming your way on a regular basis.

At the same time, there is a smaller number of you who may play a much different role. You are the market facilitators. You are the builders, manufacturers, designers, developers, dealers and distributors. You are entrepreneurs, investors, and business leaders with a passion for all things guitar.

Whether you are just interested in playing the guitar, or capable of contributing to the market arrival of the **Folded Horn Guitar**, you are a VIP in our book. And we want to hear from you.

Thank You for Joining Us On this Journey.

CONTACT INFORMATION ON FOLLOWING PAGE



Contact Us

We are USA-based.

Newport Beach CA and Chicago IL.

For now, reach out to us by email at:

info@foldedhornguitar.com

We'd love to hear more from you and we will respond in the most appropriate way as quickly as possible.

You can follow us on Facebook at @foldedhornguitar.

And you can access more as we go on our website at:

FoldedHornGuitar.com



Creating a Sounder Future for Guitar

JOIN US ON THE JOURNEY

A Stark Difference in a World of Similarity

The guitar business is saturated. We all know that. And that's ok. All the more reason to create something completely different.



What's Different?

We utilize two internal machined folded horns (waveguides) built into the acoustic guitar body with drivers and electronics.



What's the Benefit?

Our Folded Horn technology dramatically increases volume while substantially enhancing tone in acoustic guitars.



What's Next?

We're unveiling a variety of opportunities to participate in bringing this extraordinary product to market.

[LEARN MORE HERE](#)

