



Ever wonder what these holes on the sides of guitars do? They can be seen



in more and more guitars these days, especially hand-crafted custom models. They come in all

shapes and sizes; round, slotted, decorative floral patterns, and are found in many different locations, such as the upper bout side, the lower bout side, or both. Many go as far as having adjustable hatches to vary the size of the port.

Some will debate the significance of such holes, carved into the sides of perfectly designed, expensive guitars. "Is that there hole for the electronics?" No, it's there to improve sound and projection of the instrument. "How can that be possible?" I don't know, but it really works.



Actually, I don't claim to be an authority on side sound ports, but drawn from my own experience of using them in my acoustic designs, and listening to them on other guitars, I do know one thing ... I really like them.

## History

Over the years there have been many attempts at adding extra holes to a guitar to improve its sound, such as the Gibson HG-24, with its inner chambered walls, and the Paramount Model L, produced by Martin. These were mostly short-lived attempts at improving a guitar's volume for the spectator without necessarily addressing the player's listening needs.

It's hard to say who really built the first acoustic guitar with a port in the side to improve acoustical timbres. Names like William Laskin, Charles Fox, Robert Ruck, and John Monteleone come to mind when I think of some of the originators of this somewhat misunderstood feature. It's easy to say that they all fed from each other, incorporating new and improved ideas for this wonderful invention.

## How it works

To fully appreciate this, you must first understand what the *other* hole in the guitar does, meaning the hole (or holes) in the *soundboard*. Be it an arch top, classical, or steel string guitar, the holes in the soundboard are really just air vents. If a guitar had no air vents and was sealed tight, then it would sound muffled when played, like plugging your ears during a Segovia performance! When air vent holes, such as "F" holes, or the standard "round hole" in a steel string or classical guitar are used, then the guitar can breathe. In essence, you are eliminating the negative air pressure, or vacu-

um, from within the guitar chamber. This allows the soundboard to pump more when the strings are actuated, driving airwaves of different frequencies to the ear – which is what we call "sound." It's actually quite simple: the more the top moves, the more you can hear the guitar.

With all these holes in the soundboard, there is still a negative pressure inside your guitar. That's where the side sound port comes into play. By adding a side port, it allows air to flow from the soundboard vents through the side port holes, relieving the inner vacuum, and you guessed it, allowing the sound board to vibrate even more freely – pumping more powerful airwaves to the ear. This improves volume and projection to the listener.

There is another added benefit; to the *player*, a side port makes it sound like you have your whole head inside the guitar! One of my customers once commented how it's like being in two places at once – behind the guitar from a player's position, and in front of the guitar from a listener's position. Point being, the player can hear each and every note, brilliantly enhanced by the side port, because the sound almost surrounds the guitar like a high quality monitor.

Check it out and try some side ported guitars with an open mind, and I'm sure it will open your ears. 🎸

## Jeff Babicz

founder of Babicz Design Ltd., builds acoustic and electric guitars using his award winning Lateral Compression string anchored Soundboard, Torque Reducing Split Bridge, and Continually Adjustable Neck designs. [www.babiczguitars.co](http://www.babiczguitars.co)