

## What is tap tuning?

***Tap tuning***, also called modal analysis, involves hand carving each instrument's top and back thickness and bracing differently to obtain optimal tone from the soundboard based on the sound I get when I tap the top. I will carve away a little wood, then tap on the top and listen to the tone. If needed, I carve more of the bracing until I achieve the perfect pitch that I am looking for. The biggest question is when to stop carving, when is enough enough?

Well, here is where I use my engineering background. I use an Agilent 35670 digital spectrum analyzer to very accurately measure all of the resonant frequencies of a top using a calibrated hammer and accelerometers which allows me to consistently tune soundboards for maximum resonance across a specific range of notes on the fret board. The result is an instrument that really barks, sings, cuts through, however you want to describe it, in the note range that is ideal for the instrument.

***Play more. Play an instrument that's easy to play.***

Gary Lewandowski

Luthier

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