



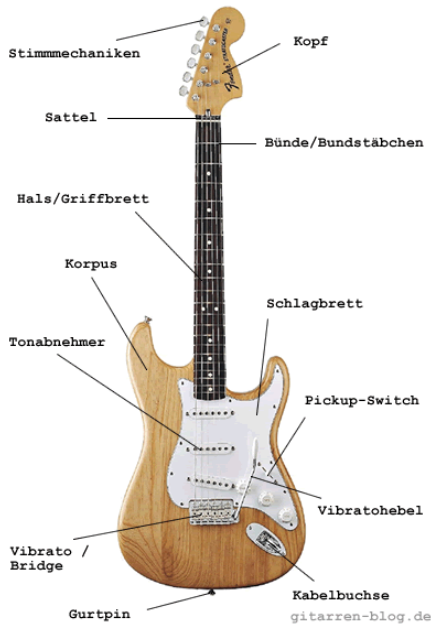
Surprise – Sound does not come from the strings

German: Überraschung - Der Klang kommt nicht aus den Saiten <http://www.sengpielaudio.com/ueberraschung-DerKlangKommtNichtAusDenSaiten.pdf>

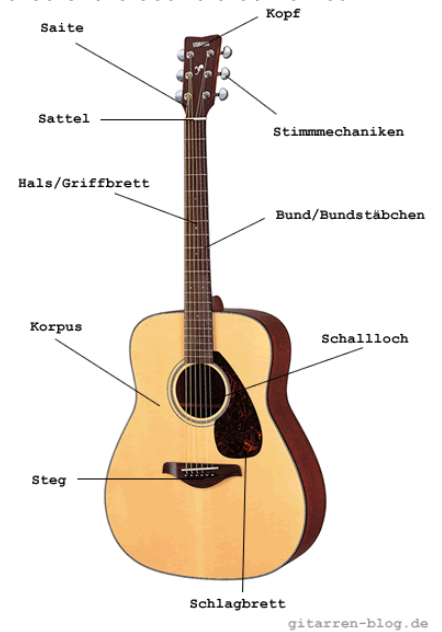
Have you ever wondered how strings really sound? Take an un-amplified electric guitar for example. It is really just a board. Listen to what you hear when you strum it. If you need more evidence, listen to an un-amplified electric violin. This is a really horrible sound that the strings are generating.

An acoustic string instrument, on the other hand, is a musical instrument that uses vibrating strings which are under tension between two points, where the string vibrations are physically coupled to a **sound amplifying resonator**, (soundboard, sound body, sound box) which is the actual source of the sound that we hear.

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Electric guitar



Acoustic guitar

For the same reason, the assumption that the sound of a piano comes from the piano strings is also **wrong**. This common assumption can be seen in the microphone setup of amateurs when they place the microphones very close to the strings. It is better if one places the microphones facing the sound-holes, over the piano frame and above the soundboard to pickup a more accurate sound of the instrument, without the direct sound of the strings.



This close-miked string sound cannot be good.



A/B above the sound-holes



Piano sound holes

Is the harp sound really produced by the strings?



For another bad example, look at how the microphones have been placed close to the harp strings in this photograph.

On all musical instruments new strings always sound brighter and more metallic than used strings. Professional musicians will gladly take new strings over old strings on their instruments to achieve a brilliant sound.

Strings always need a resonant body to make the string vibrations more audible. Sound engineers should always consider the sound-amplifying body when choosing microphone placement.

Question: Which component of an instruments sound is more important, the strings or the sound-box? Of course, both are important for the sound.

Conclusion: In recording acoustic stringed instruments, the desired full sound does not come from the strings. Therefore, microphone placement, close to the strings, is never a good practice.