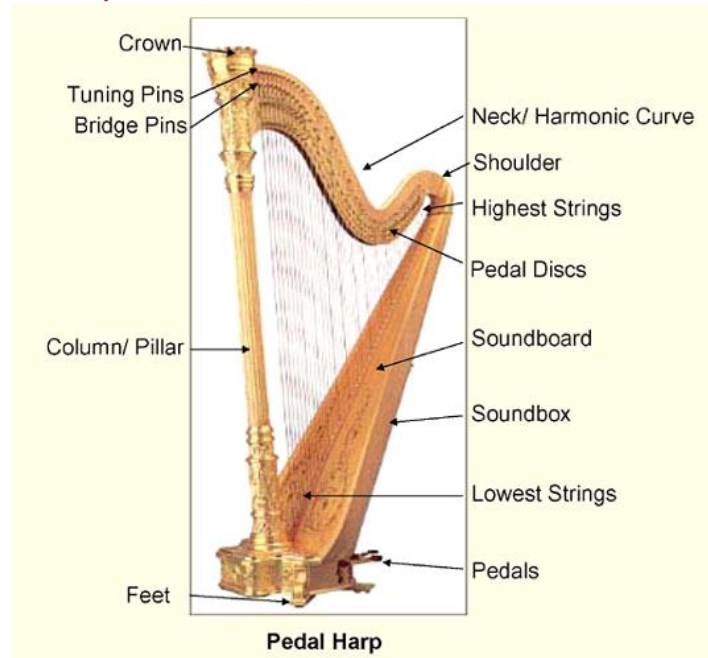


PLUCKED STRING INSTRUMENTS

Plucked string instruments are a subcategory of string instruments that are played by plucking the strings. Plucking is a way of pulling and releasing the string in such a way as to give it an impulse that causes the string to vibrate. Plucking can be done with either a finger or a plectrum.

The Harp



The harp is a stringed musical instrument that has a number of individual strings running at an angle to its soundboard; the strings are plucked with the fingers. It's tall, about six feet, shaped a little like the number 7. You play the harp sitting down with your legs on either side, with the neck of the harp leaning on your right shoulder. Attached to the bottom of the harp are seven-foot pedals, which change the pitch of each string and allow them to sound the pitches of the black keys on the piano.

Symphony Orchestra: There are usually one or two harps in an orchestra, and they play both melody and harmony.

Stringing: The harp has 47 strings of varying lengths. Each string sounds a different note (they come in different colors to help you tell

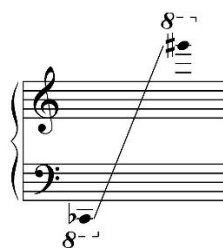
one from another) and you play them by plucking the strings with your fingertips and thumb.

Notation: The harp uses the piano harp notation and is written on two staves. The lower staff is in bass clef, the upper in treble clef. If required by the register both staves can be in the same clef, either bass or treble. Changes in pedal position should also be written into the score and are most conveniently effected during rests, so that the musician has sufficient time to prepare them.

Transposing Instrument: The harp is a non-transposing instrument.

Tuning: The strings of a harp are tuned to the notes of the white keys of the piano.

Playing Range:



The Guitar

The guitar is a fretted musical instrument, a type of **chordophone**, strung with either gut, nylon or steel strings. The tone is produced by the vibration of the strings, which is either amplified acoustically by the body of the guitar, which acts as a resonating chamber or projected, through an electrical amplifier and a speaker. It is typically played by strumming or plucking the strings with the fingers, thumb or fingernails of the right hand or with a pick while fretting (or pressing against the frets) the strings with the fingers of the left hand.

The Classical Guitar (flat top - nylon-string guitar)

The classical guitar is often played as a solo instrument using a comprehensive fingerpicking technique. Typically, a classical acoustic guitar has 6 strings.



The Steel-String Acoustic Guitar (flat top guitar)

The steel-string acoustic guitar is a modern form of guitar that descends from the nylon-strung classical guitar, but is strung with steel strings for a brighter, louder sound. Like the classical guitar, it is often referred to simply as an acoustic guitar. Typically, a steel-string acoustic guitar has 6 strings.



The Arch Top Guitar

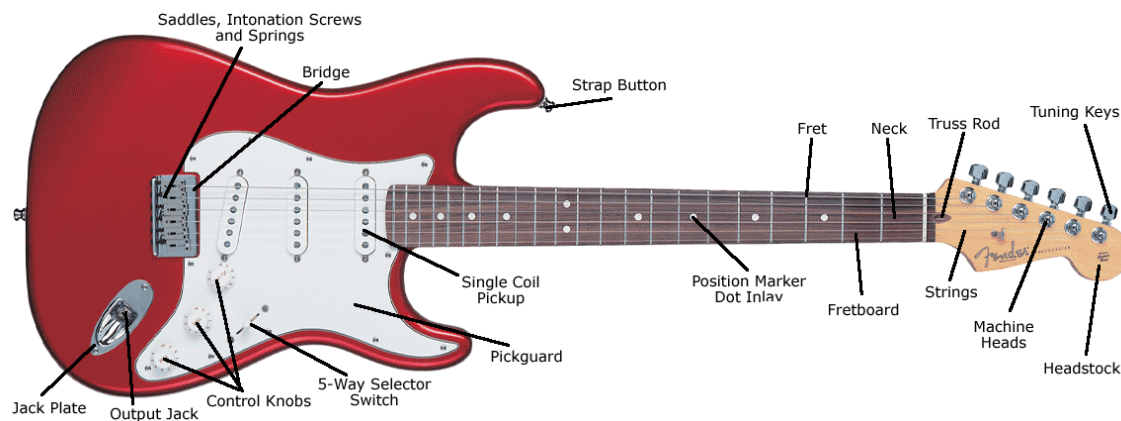
An archtop guitar is a hollow steel-stringed acoustic or semi-acoustic guitar with a full body and a distinctive arched top, whose sound is particularly popular with jazz, blues, rockabilly and psychobilly guitarists. Typically, an archtop guitar has: 6 strings.



The Electric Guitar

Electric guitars, introduced in the 1930s, use an amplifier that can electronically manipulate and shape the tone. Early amplified guitars employed a hollow body, but a solid body was eventually found more suitable, as it was less prone to feedback. Electric guitars have had a continuing profound influence on popular culture. Guitars are recognized as a primary instrument in genres such as blues, bluegrass, country, flamenco, folk, jazz, jota, mariachi, metal, punk, reggae, rock, soul, and many forms of pop.

The Parts of the Electric Guitar



Headstock and Tuning Keys (Pegs)

Most electric guitars have 6 tuning pegs located on the same side of the headstock (some however have 3 on each side of the head). Turning the pegs either tighten or loosen the strings resulting in a higher or lower pitched tone.

The Nut

The nut is designed to lead the strings from the fret board to the tuning pegs through the slots in the nut. It is usually made of plastic, brass, bone or graphite.

Neck

The guitar neck itself is most commonly made out of rosewood or maple or variations of those types of wood. Necks can also be made out of ebony or mahogany.

Fret Board

The fret board on this guitar type consists of fret wires placed into the guitar's neck. Between these wires are the frets where you place your fingers. A standard electric guitar usually has 21-24 frets. Each fret represents one semitone so a fret board with 24 frets is spanning 2 octaves (24 semitones).

The Pickups



To produce sound, an electric guitar senses the vibrations of the strings **electronically** and routes an electronic signal to an amplifier and speaker. The sensing occurs in a **magnetic pickup** mounted under the strings on the guitar's body. Most electric guitars have 2-3 pickups and their placement is important.

- Located close to the neck the pickup will produce a soft rounded sound.
- Located close to the bridge it will produce a sharper, pointier sound.

Control Knobs



The **volume control** adjusts the volume on the signal picked up by the pickups. The **tone controls** adjust the treble on the sound. There are usually 2 or more tone controls each referring to the pickup selected with the pickup selector switch.

Pickup Selector

The pickup selector switch toggles between the pickups (or combination of pickups) the guitar uses to pick up the sound.

The Bridge and the Vibrato Arm



The bridge can be divided into 2 main types:

- Tremolo and
- non-tremolo (hard tail) bridges.

The tremolo bridge has an extension arm (a.k.a. vibrato arm) which the player can push (and in some cases pull) to decrease or increase the string tension causing a tremolo or vibrato effect in the sound.

The Body and Pick-Guard

The guitar body is commonly made of maple, mahogany or ash wood and comes in a wide variety of shapes and sizes. The white part of the guitar body in the picture above is the pick guard. It is there to protect the wood finish of the guitar body from being struck or scraped by the pick when picking the strings.

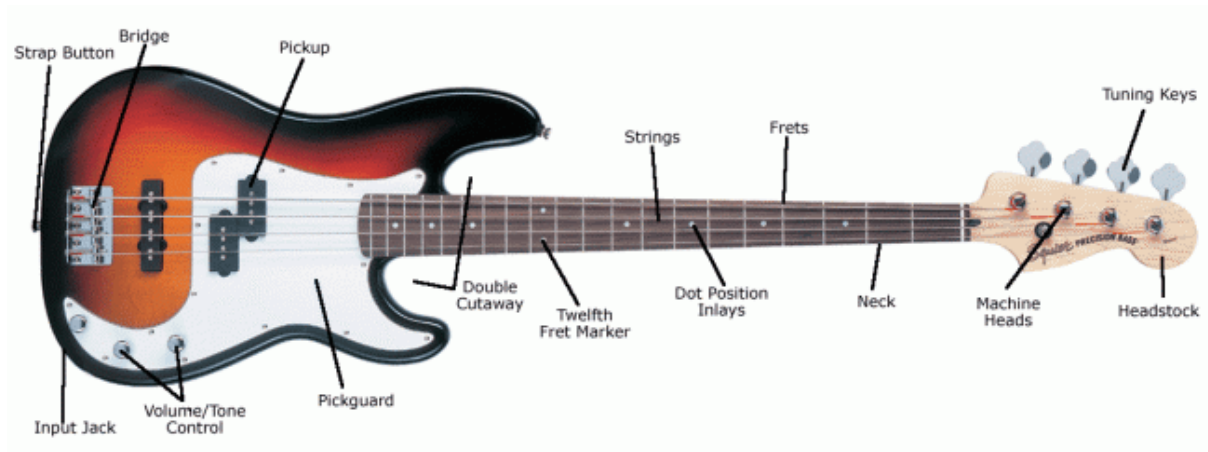
Output Jack



A cable with a 1/4" male jack plug in both ends is used to plug the guitar into an amplifier or a mixing unit.

The Electric Bass Guitar

A bass guitar (also called an electric bass) is a string instrument which is related to the electric guitar. The bass guitar is shaped like an electric guitar, except that it is longer than an electric guitar. The electric bass has many of the same parts as an electric guitar. However, the bass guitar produces lower tones than the electric guitar. The bass guitar is used to play low musical sounds called "bass lines" in many styles of music such as rock, pop, country, jazz fusion and many more.



Tab Notation System

♩ = 100

C

The image shows a musical score for a C major scale in 4/4 time. The top staff is a treble clef with a key signature of one sharp (F#) and a time signature of 4/4. The melody consists of quarter notes: C4, D4, E4, F4, G4, A4, B4, and C5. Above the first measure, there is a 'C' and a guitar chord diagram for C major. Below the musical staff is a guitar tablature system with three staves labeled T, A, and B. The tablature shows the fret numbers for each string: T (3, 0, 2, 3), A (0, 2, 0, 1), and B (3, 0, 2, 3).

Tablature is common for fretted stringed instruments such as the lute, vihuela, or guitar, as well as many free reed aerophones such as the harmonica. Tablature was common during the Renaissance and Baroque eras, and is commonly used in notating rock, pop, folk, ragtime, bluegrass, and blues music.