

# Electric Guitar

## definition

gui·tar

a stringed musical instrument having a long, fretted neck, a flat-backed body, and played by strumming or plucking

e·lec·tric

producing, transmitting, or operated by electricity

## description

Since the creation of guitar-like instruments, the guitar has gone from an instrument only for entertaining royalty to one for a traveling musician. While the 21st century musician might be neither of the two, the guitar is now a common instrument even for the amateur whether acoustic or electric.

Over time, many variations of the guitar have been made. Some, like the bass, became forever popular. Despite the changes to form or style, the guitar remains a perfect instrument to lead or accompany any ensemble.

## main parts

headstock

frets

strings

neck and fretboard

body

pickups

pickguard

bridge



electric guitar

## history

### 16<sup>th</sup> century

Introduced to New World by Columbus.

### 17<sup>th</sup>

In Baroque Europe, it's played as a courtly instrument or royalty with an added fifth pair of strings. The style combines elements of polyphonic lute playing with chordal strumming techniques used by popular musicians.

### 18<sup>th</sup>

The traveling French and English bring the guitar to settlements in North America.

### 18/19<sup>th</sup>

In the Classical era, a new louder 6 single string arrives and is a favorite of the chamber music scene.

### 19<sup>th</sup>

Folk develops among gypsies in southern Spain creating Flamenco style and guitars.

### 19/20<sup>th</sup>

Factory production creates cheaper prices of guitars, making them more available to common people.

### 20<sup>th</sup>

George Beauchamp patents the electric guitar and co-founds Rickenbacher, which uses the horseshoe-magnet pickup. The company of the late C.F. Martin releases first guitar made for steel strings, leading to the Western guitar. Martin steel-strings are still made today. Danelectro guitar company pioneers tube-amp technology and is first to produce electric guitars for the wider public.

## ELECTRIC VS. ACOUSTIC

The electric guitar is quite different from the acoustic guitar in several ways. An acoustic guitar has a soundboard and a sound hole which are a large part of the sound amplification. Electric guitars do not have soundboards or holes because they use pickups to transmit sound to an amplifier. Pickups look like small metal buttons sitting beneath the strings on the body. They are individual magnets wrapped together in copper wire underneath the surface of the body. The wire and magnets create a sensitive magnetic field that detect the slightest vibrations in the strings. The detections are transmitted to an amplifier as electrical energy and translated into sound through the speaker. Electronic devices on the body of the guitar can change volume and other aspects of the output sound during play. Devices on the amplifier or mixer can distort the sound and create interesting variations of the classic sound.



electric guitar, detail

One thing that has had slight variations but has stayed fundamentally the same throughout the ages is the guitar body. The body of the electric guitar, while sometimes slightly hollow, has little to do with the sound of the guitar. But the long history of the classic acoustic guitar shape, which has been crafted to generate the perfect sound, is difficult for society to deviate from. Its pear-shaped body is aesthetically pleasing and is reminiscent of that perfectly mastered instrument. While the electric guitar could be played with only a long thin body the width of its fretboard with the headstock at the top and a bridge at the base keeping the strings taught and in place, it is unlikely that such a shape will ever gain genuine popularity in the music world. As musical technology presses forward, humanity still clings to tradition.



acoustic guitar, detail

## REFERENCES

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Digital-Analog Design Punch Cards is a set of research cards designed and produced by the students of DSGD 186, Digital Applications Methodology, a third-year graphic design course at San Jose State University, Fall 2006. The set, composed of 1+26 cards, is by no means complete. Each topic was chosen and researched by the students, based on a theme presented by the instructor Pino Trogu, with help from Mauro Panzeri. This is card number 05 and it was designed by Sarah Alberg.

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