

## The Theremin

The theremin is an electronic musical instrument controlled without physical contact by the performer (who is known as a “thereminist”). It is named after its inventor, Leon Theremin, who patented the device in 1928.



The instrument consists of two metal antennas which function as position sensors. Each antenna forms one half of a capacitor, and each hand forms the other half of each capacitor. These antennas sense the positions of the hands and control oscillators for frequency (pitch) and amplitude (volume). Most frequently, the right hand controls the pitch and the left hand controls the volume. The electric signals from the theremin are amplified and sent to a loudspeaker.

The sound of the instrument is often associated with eerie situations such as science fiction or paranormal activity. The theremin has frequently been used in movie soundtracks and theme music for TV shows. The theremin is also used in concert music, for example, Mano Divina and Katica Illényi are well-known thereminists who regularly give concerts using the theremin.

The theremin was the product of Soviet government-sponsored research into proximity sensors. The instrument was invented in October 1920 by the Russian physicist Leon Theremin. After a tour of Europe, during which he demonstrated his invention to packed houses, Theremin moved to the United States, where he patented his invention in 1928.

The theremin fascinated audiences in America and abroad. Clara Rockmore (1911-1998) was the first performer to bring musical artistry to the theremin. She toured the USA, performing a classical repertoire in concert halls.

The theremin is unique among musical instruments, as it is played without physical contact.

How does the theremin work: <https://www.youtube.com/watch?v=-QgTF8p-284>  
<https://www.youtube.com/watch?v=vFQs4ET3rEY>

How to play a scale: <https://www.youtube.com/watch?v=0n-o71RUrQw>

Mano Divina: <https://www.youtube.com/watch?v=5UdZW7TLw-4>

Clara Rockmore (1961): <https://www.youtube.com/watch?v=pSzTPGINa5U>

Katica Illényi:

Once Upon a Time in the West: <https://www.youtube.com/watch?v=IY7sXKGZI2w>

Theme from Star Trek: <https://www.youtube.com/watch?v=x0NVb25p1oU>

O Sole Mio: <https://www.youtube.com/watch?v=Nfh6UuJuU-U>