

# Acoustic vs. Digital Pianos

## Which should I buy?



You'll have to answer this question for yourself based on your personal needs and preferences, but the information below can help you make a good decision.

Let's start with some key facts about the piano. Modern pianos have been around for over 300 years. Bartolomeo Cristofori invented the first pianoforte in Venice, Italy using a hammer mechanism to produce a sound from the vibration of the strings. While many musical instruments produce sound in this manner, the way you cause the strings to vibrate will differ. You might pluck or pick the strings of your guitar. A bow can be used to make the sounds that come from a violin or a cello. With an acoustic piano, you push down on the keys to cause a hammer to hit and bounce off of the strings. This allows the strings to vibrate and allows the pianist to give expression to the music played by varying the force, speed, release, etc. when hitting the keys.

An acoustic piano typically contains over 10,000 parts and come in two basic styles: a grand piano and an upright (or vertical) piano. Grand pianos range in size from 4 feet 7 inches to over 9 feet in length and are horizontal. The strings on the grand piano are parallel to the ground. Gravity pulls the hammers back down to their resting points after hitting the string or strings. Upright pianos can also be categorized by size and include the spinet (36 to 39 inches), the console (39 to 42 inches) and the studio (42 inches or higher). The console piano is the most common upright found in homes.

Digital pianos are electronic instruments that reproduce sounds that have been "sampled" and stored on computer chips inside the piano. A digital piano has 61 to 88 keys, but no hammers, strings or any of the moving parts you find in an acoustic piano. The sound is produced when the pressure you put on a key tells the computer inside what sound to make. Good quality digital pianos may have a weighted key action feature that tries to imitate the feel of an acoustic piano keyboard. Electronic keyboards and organs don't have weighted key action. You can hear the sounds the digital keyboard makes through built-in speakers, an external sound system or headphones.

When deciding what type of piano to buy, try out as many good quality instruments as you can. Play pianos in different price ranges and try both acoustic and digital types. Do some of the things listed below and listen closely for what sounds best and feels best to you. Decide on a price range and what style you prefer and you will be ready to choose the right piano for you.

- **Play notes in the bass (to the left), the middle and the treble (to the right).** Does the tone sound even? How rich is the bass? What do you hear when you play the high notes?
- **Play loud and soft in the bass, middle and treble.** What differences do you hear?
- **Press down on different keys, and then try playing a chord.** How hard do you have to push to make the sounds? Some people prefer a light touch (easy to push) and others prefer a heavy touch (hard to push). The touch you prefer also depends on the type of music you play.
- **Try some rapid trills and tremolos (two notes played alternately as quickly as possible). Play notes staccato style (short, quick notes).** Do the notes stop when you release the keys or do some linger on?
- **Press on the pedals with your feet (some digital pianos don't have them.)** Do all the notes you play sound like they are sustained (resonating) when you push on the right-hand pedal? When you press on the left-hand pedal, do the notes you play sound softer? On a digital piano, try out the pedals to see how they affect the sound (volume, sustain, etc.)
- **Play a song you know.** Does the sound of the piano improve how the song sounds to you? How do you feel when you are playing the song?

## Features of Acoustic and Digital Pianos

Feature	Acoustic	Digital
Sound source	Vibrations caused by hammers hitting strings and resonating from the wooden soundboard	Imitates the sound of a grand piano through digital sampling; played through speakers or headphones
Sound quality	Full range of expression depending on pianist's abilities	Difficulty producing expression, color, tone
Number of keys	Usually 88 full-size	61 to 88, may be full-size or not
Touch sensitivity	Action mechanism (movement of the parts) allows a pianist to control the dynamics and tonal color	Better quality keyboards may have touch sensitivity or weighted action that attempts to simulate the feel of an acoustic piano.
Pedals	Two or three used to sustain or dampen sound	Better quality models may have pedals as an accessory that control volume and sustain
Cost	Good quality acoustic pianos usually range from \$3,500 to \$10,000 for uprights and \$7,500 to more than \$85,000 for grands. You can also rent pianos and buy good quality used pianos for much less.	\$1,000 to \$3000 or more for a digital piano that most closely resembles an acoustic piano
Appearance	Furniture quality wood with a variety of finishes	Cases comparable in looks to most electronic equipment
Maintenance	Tuning and check-up suggested 1 to 2 times per year; consistent humidity control is important	No tuning required; care required is similar to a computer or any electronic component
Repairs	Well-maintained pianos don't usually require much repair; age and wear-and-tear does affect the parts over time	Can be expensive (often more than the cost of replacing the keyboard)
Long term value	Good pianos last decades and may even appreciate in value	Very similar to computers; depreciate quickly as new models are introduced
Suitability for piano lessons	Acoustic pianos have the capabilities and range necessary to play all types of music. Some skills can only be learned on an acoustic piano.	Some piano teachers will not teach students who have advanced beyond beginner levels who don't use an acoustic piano for practice.
Size	400 to 1,000 pounds	Usually less than 100 pounds, but the digital equivalent of a grand piano weighs more
Portability	Two or more movers; preferably professionals with proper equipment	Smaller models can be carried by one person; digital grands require professional movers and weigh over a hundred pounds
Electronics	Player systems may be added that play a wide variety of sounds and record from the piano; these can be connected to a computer or sound system for recording	Imitates a wide variety of instruments and sounds; some have built-in recording capability; can be connected to a computer or sound system
Power source	None needed	Electricity or battery