

About the Instrument

THE PIANO



The piano is perhaps the world's most celebrated instrument. The standard acoustic piano boasts a range of sound that encompasses the longest string of a booming low A to the shortest string of the highest C, a dynamic range of hushed *pianissimo* (very soft) to thunderous *fortissimo* (very loud), and a unique capacity to play any number of notes at the same time.

The piano is a veritable orchestra at our fingertips. Since its invention around 1700 by Bartolomeo Cristofori, the piano has evolved to a magnificent instrument with over 10,000 parts.

Strings – Today's piano uses high tension steel for the strings. There are three strings for each key, except in the bass (lower) register where there are two strings per key or a single string wrapped in coiled copper. The pitch of a string is determined by its length and tension. The higher tones have shorter strings, while lower tones may have strings over three feet in length.

The strings of a grand piano are horizontal, whereas an upright piano utilizes vertical strings to save floor space.

Keys – The standard piano keyboard spans 88 keys. The key mechanism resembles a seesaw, with each key being a lever. As the key is struck, a hinged hammer on the other end comes up to strike the strings. At the moment of impact, the key also lifts the damper off of the strings, allowing the string to continue to vibrate. The white keys, formerly made of ivory, are plastic on today's piano. The black keys, formerly of ebony, are usually constructed of stained pear wood.

Hammers – The hammers (located underneath the strings) are covered with felt. The volume of sound is determined by the speed of the hammer striking the string.

To play louder, the hammer must strike the string faster. To play softer, the hammer must strike the string slower.

Escapement – The most brilliant and revolutionary feature of Cristofori's early piano was the escapement. This escapement action allows the hammer to fall away immediately after striking the string, thus letting the sound ring. Through continued improvements, the escapement in the modern piano makes rapid repetition of a key possible.

Soundboard – The soundboard is located below the strings (behind the strings on an upright piano). The soundboard amplifies the tone of the vibrating strings through sympathetic vibration. Cracks can develop in the soundboard due to dryness or extreme temperature changes. Humidity control and stable temperatures preserve the health of the soundboard.

Pedals – Pianos have two or three pedals. The damper pedal (the pedal to the right) is used most often. It lifts the dampers off the strings, sustaining the sound until the pedal is released. The damper pedal adds a soulfulness to melodies, a richness to harmonies, and a shimmer to fast passagework.

The *una corda* or "soft pedal" (left pedal) shifts the keyboard to the right, causing the hammers to strike one fewer string. In addition to softening the sound, the *una corda* pedal changes the tone quality to a more muted, veiled sound.

If a piano has a *sostenuto* pedal, it is the pedal in the middle. The *sostenuto* pedal sustains the sound of those keys depressed when the pedal goes down. Notes played after this are not sustained. The *sostenuto* pedal is not essential for playing the piano repertoire.

