



The Classical Harpsichord Description Page



Harpsichord in the Flemish style

A **harpsichord** is a [musical instrument](#) played by means of a [keyboard](#). It produces sound by plucking a string when a [key](#) is pressed.

In the narrow sense, "harpsichord" designates only the large wing-shaped instruments in which the strings are perpendicular to the keyboard. In a broader sense, "harpsichord" designates the whole family of similar plucked keyboard instruments, including the smaller [virginals](#), [muselar](#), and [spinet](#).

The harpsichord was widely used in [Renaissance](#) and [Baroque music](#). During the late 18th century it gradually disappeared from the musical scene with the rise of the [piano](#). But in the 20th century it made a resurgence, used in [historically informed performance](#) of older music, in new (contemporary) compositions, and in popular culture.

Mechanism

Harpsichords vary in size and shape, but they all have the same basic functional arrangement. The player depresses a key pivoted in the middle of its length, which causes the far end of the key to rise. This lifts a **jack**, a long strip of wood, to which is attached a small **plectrum** (a wedge-shaped piece of **quill** or, nowadays plastic), which plucks the string. When the key is released by the player, the far end returns to its rest position and the jack falls back. The plectrum, mounted on a tongue that can swivel backwards away from the string, passes the string without plucking it again. As the key reaches its rest position, the string's vibrations are halted by the damper, a piece of felt attached to the top of the jack.

These basic principles are explained in more detail below.

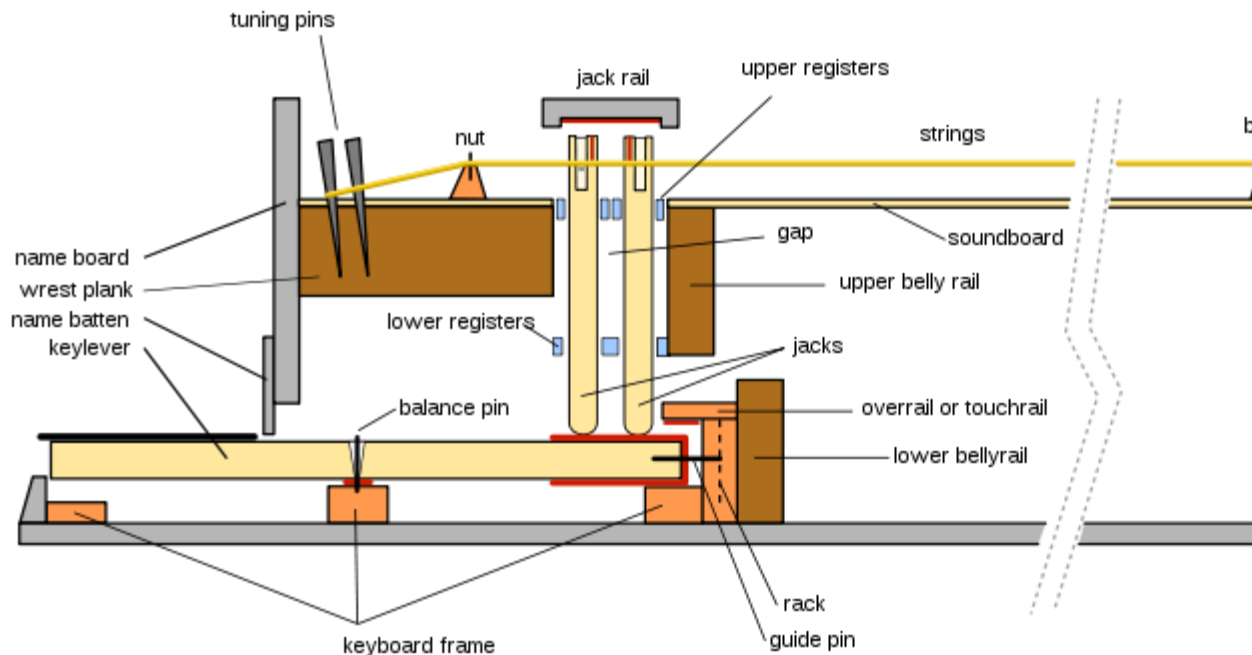


Figure 1. Schematic view of a 2 × 8' single manual harpsichord

- The *keylever* is a simple pivot, which rocks on a *balance pin* passing through a hole drilled through it.
- The *jack* is a thin, rectangular piece of wood which sits upright on the end of the keylever, held in place by the registers (the upper movable, the lower fixed) which are two long strips of wood running in the gap from

spine to cheek with rectangular mortises through which the jacks can move up and down.

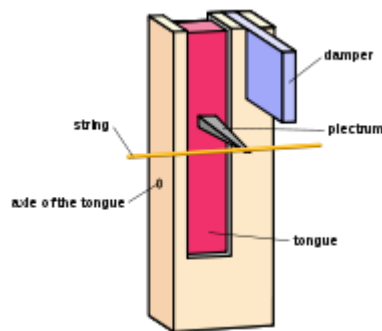


Figure 2. Upper part of a jack

- In the jack, a *plectrum* juts out almost horizontally (normally the plectrum is angled upwards a tiny amount) and passes just under the string. Historically, plectra were normally made of *crow* quill or leather; most modern harpsichords based on historic instruments have plastic (*delrin* or *celcon*) plectra.
- When the front of the key is pressed, the back of the key rises, the jack is lifted, and the plectrum plucks the string.

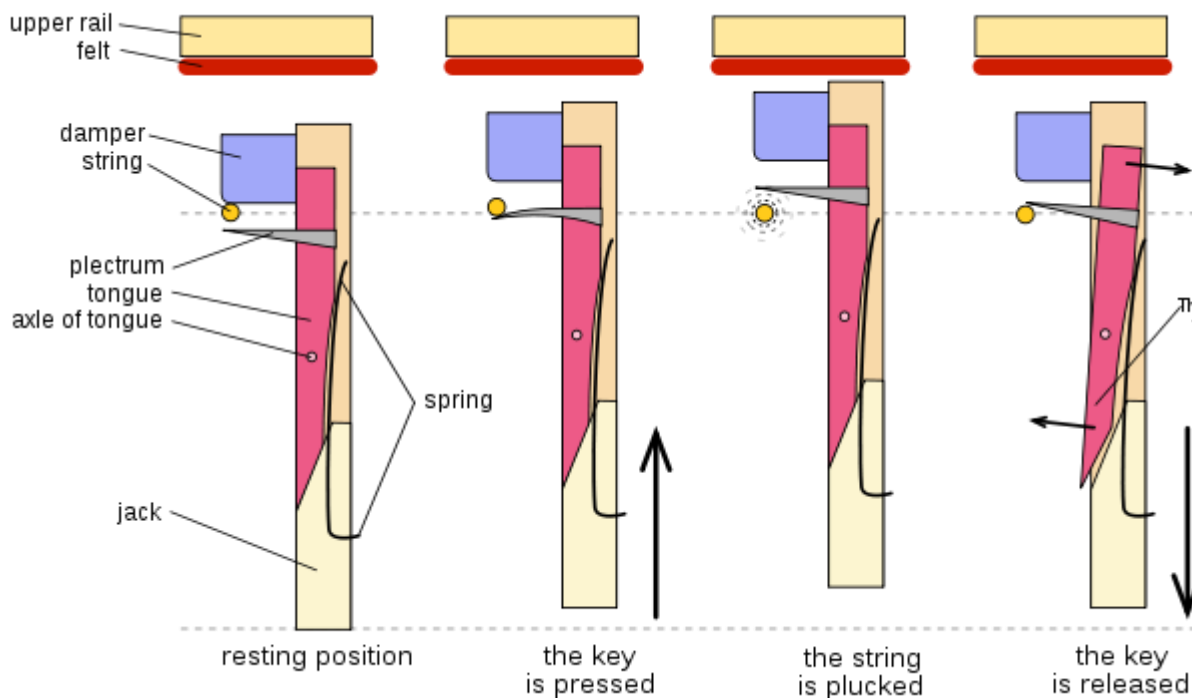


Figure 3. When the key is pressed, the jack is raised, and the plectrum touches the string and begins to bend. Then the plectrum plucks the string and causes it to sound. The jack hits the jack rail. When the player's hand is released from the key, the jack falls back down under its own weight, and the plectrum pivots backwards to allow it to pass the string.

- When the key is released, the jack falls back down under its own weight, and the plectrum pivots backwards to allow it to pass the string. This is made possible by having the plectrum held in a tongue which is attached with a pivot and a spring to the body of the jack.
- At the top of the jack, the felt damper keeps the string from vibrating when the key is not depressed.
- The vertical rise of the jacks is stopped by the jackrail, which is covered with soft felt to muffle the impact of the jack.

Strings, tuning, and soundboard

Each string is wound around a *tuning pin*, normally at the end of the string which is closer to the player. When rotated with a wrench or tuning hammer, the tuning pin adjusts the tension so that the string will sound the correct pitch. Tuning pins are held tightly in holes drilled in the *pinblock* or *wrestplank*, an oblong hardwood plank.

Proceeding from the tuning pin, a string next passes over the *nut*, a sharp edge that is made of hardwood and is normally attached to the wrestplank. The section of the string beyond the nut forms its *vibrating length*, which is plucked and creates sound.

At the other end of its vibrating length, the string passes over the [bridge](#), another sharp edge made of hardwood. As with the nut, the horizontal position of the string along the bridge is determined by a vertical pin inserted into the bridge, against which the string rests.

The bridge itself rests on a [soundboard](#), a thin panel of wood usually made of [spruce](#) or (in Italian harpsichords) [cedar](#). The soundboard efficiently transduces the vibrations of the strings into vibrations in the air; without a soundboard, the strings would produce only a very feeble sound.

A string is attached at its far end by a loop to a *hitchpin* which secures it to the case.

Multiple choirs of strings

Many harpsichords have exactly one string per note. There are several reasons why it is sometimes an advantage to have more. When there are two choirs of strings at the same length, it is possible to arrange for them to

give different tonal qualities, and thus to increase the variety of sound produced by the instrument. This is done by having one set of strings plucked closer to the nut, which emphasizes the higher [harmonics](#), and produces a "nasal" sound quality. When two strings tuned to be the same pitch, or to an [octave](#) apart, are plucked simultaneously by a single keystroke, the note is louder and richer than one produced by a single string. The qualitative distinction is particularly noticeable when the strings are tuned an octave apart.

When describing a harpsichord it is customary to specify its choirs of strings, often called its [disposition](#). Strings at [eight foot pitch](#) sound at the normal expected pitch, strings at four foot pitch sound an octave higher, and sometimes harpsichords have the rare 16-foot pitch (one octave lower than eight-foot) or two-foot pitch (two octaves higher).

When there are multiple choirs of strings, the player is often able to control which choirs sound. This is usually done by having a set of jacks for each choir, and a mechanism for "turning off" each set, often by moving the upper register (through which the jacks slide) sideways a short distance, so that their plectra miss the strings. In simpler instruments this is done by manually moving the registers, but as the harpsichord evolved, builders invented levers, knee levers and pedal mechanisms to make it easier to change registration.

More flexibility in selecting which strings play is available in harpsichords having more than one keyboard or manual, since each manual can control the plucking of a different set of strings. In addition, such harpsichords often have a mechanism to couple manuals together, so that two can be used while actually playing on only one. The most flexible system is the French shove coupler, in which the lower manual can slide forward and backward, so that in the backward position "dogs" attached to the upper surface of the lower manual engage the lower surface of the upper manual's keys. Depending on choice of keyboard and coupler position, the player can select any of the sets of jacks labeled in figure 4 as A, or B and C, or all three.

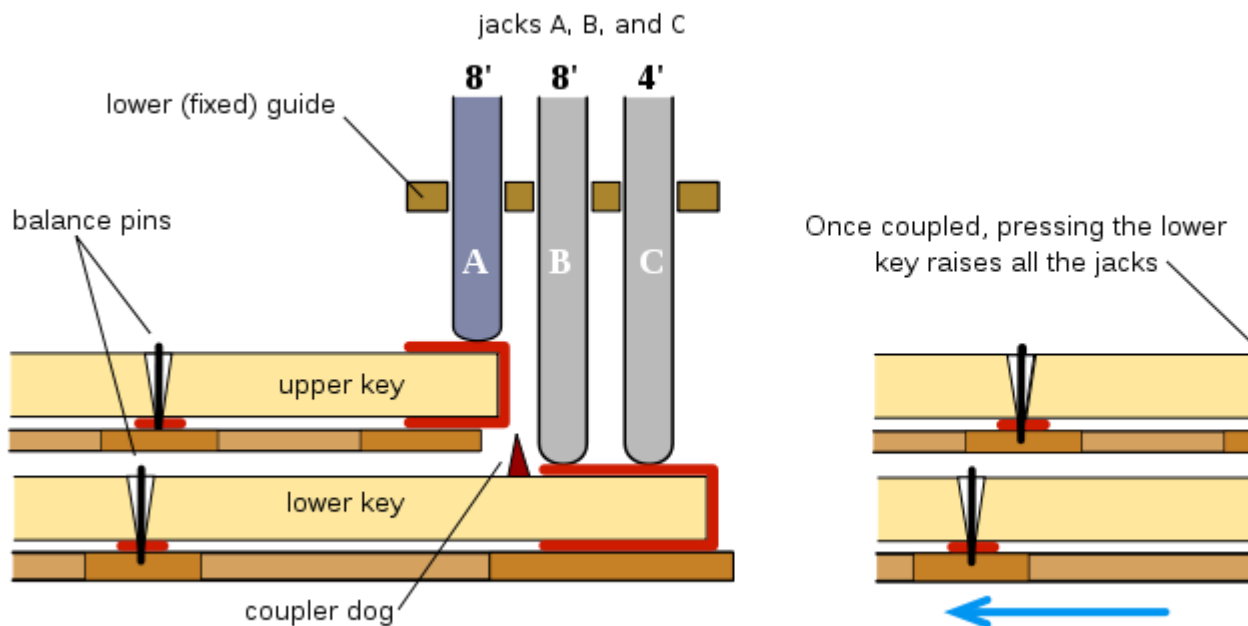


Figure 4. French shove coupler. To the left: uncoupled keyboards. The depressed upper key lifts the jack A upwards. The depressed lower key lifts jacks B and C. To the right: The upper keyboard is coupled to the lower one by pulling the latter. The depressed upper key lifts the jack A upwards. The depressed lower key lifts jacks A, B and C.

The English dogleg jack system is less flexible, in that the manuals are immobile. The dogleg shape of the set of jacks labeled A in Figure 5 permits A to be played by either keyboard, but the lower manual necessarily plays all three sets, and the player cannot select just B and C as in the French shove coupler.

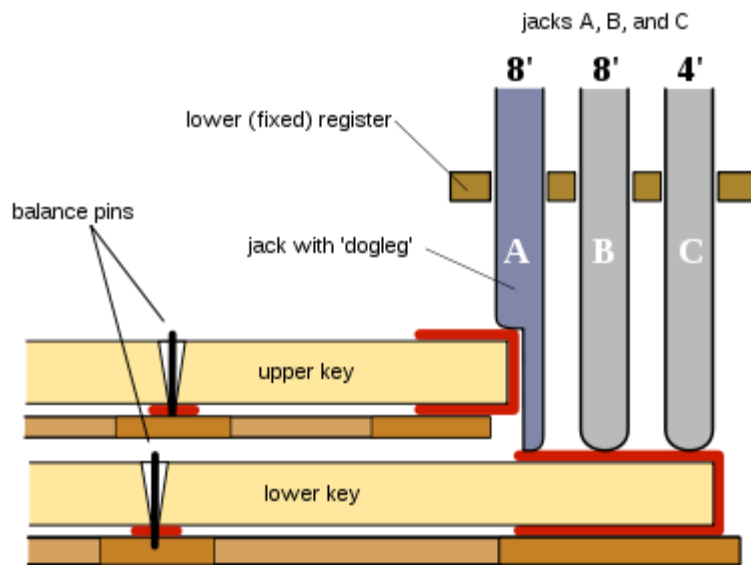


Figure 5. Dogleg jack, English coupler system. When depressed, the upper key lifts the "dogleg" jack (jack A) upwards. The lower key lifts all three jacks A, B, and C. The use of multiple manuals in a harpsichord was not originally provided for the flexibility in choosing which strings would sound, but rather for [transposition](#); for discussion see [History of the harpsichord](#).



[Jan Vermeer](#)'s famous painting *A Lady Standing at a Virginal* shows the characteristic practice of his time, with the instrument mounted on a table and the player standing.

The case

The case holds in position all of the important structural members: pinblock, soundboard, hitchpins, keyboard, and the jack action. It usually includes a solid bottom, and also internal bracing to maintain its form without warping under the tension of the strings. Cases vary greatly in weight and sturdiness: Italian harpsichords are often of light construction; heavier construction is found in the later Flemish instruments and those derived from them (see [History of the harpsichord](#)).

The case also gives the harpsichord its external appearance and protects the instrument. A large harpsichord is, in a sense, a piece of furniture, as it stands alone on legs and may be styled in the manner of other furniture of its place and period. Early Italian instruments, on the other hand, were so light in construction that they were treated rather like a violin: kept for storage in a protective outer case, and played after taking it out of its case and placing it on a table.^[1] Such tables were often quite high - until the late 18th century people usually played standing up.^[1] Eventually, harpsichords came to be built with just a single case, though an intermediate stage also existed: the "false inner-outer", which for purely aesthetic reasons was built to look as if the outer case contained an inner one, in the old style.^[2] Even after harpsichords became self-encased objects, they often were supported by separate stands, and some modern harpsichords have separate legs for improved portability.

Many harpsichords have a lid that can be raised, a cover for the keyboard, and a stand for music.

Harpsichords have been decorated in a great many different ways: with plain buff paint (e.g. some Flemish instruments), with paper printed with patterns, with leather or velvet coverings, with [chinoiserie](#), or occasionally with highly elaborate painted artwork.^[3]

Variants

The terms used to denote the various members of the harpsichord family are now standardized. This was not so in the harpsichord's heyday.

Harpsichord

In modern usage, "harpsichord" can mean any member of the family of instruments. More often, though, it specifically denotes a [grand-piano](#)-shaped instrument with a roughly triangular case accommodating long [bass](#) strings at the left and short [treble](#) strings at the right. The characteristic profile of such a harpsichord is more elongated than a modern piano, with a sharper curve to the [bentside](#).

Virginals

Main article: [Virginals](#)

The virginal is a smaller and simpler rectangular form of the harpsichord having only one string per note; the strings run parallel to the keyboard, which is on the long side of the case.

Spinet

Main article: [Spinet](#)

A spinet is a harpsichord with the strings set at an angle (usually about 30 degrees) to the keyboard. The strings are too close together for the jacks to fit between them. Instead, the strings are arranged in pairs, and the jacks are in the larger gaps between the pairs. The two jacks in each gap face in opposite directions, and each plucks a string adjacent to a gap. This produces a dry tone.

Clavicytherium

A clavicytherium is a harpsichord with the soundboard and strings mounted vertically facing the player, the same space-saving principle as an [upright piano](#).^[4] In a clavicytherium, the jacks move horizontally without the assistance of gravity, so that clavicytherium actions are more complex than those of other harpsichords.

Some of the earliest harpsichords for which we have evidence are clavicytheria. One surviving example from the late 15th century is kept at the [Royal College of Music](#) in London.^[4] For most of the history of the harpsichord, however, the clavicytherium was far less common than the horizontal instrument, probably because of its greater complexity and lesser reliability. In the 18th century fine clavicytheria were made by Albertus Delin, a Flemish builder.^[5]

Ottavino

Ottavini are small spinets or virginals at [four foot pitch](#). It is thought that harpsichords at octave pitch were more common in the late Mediaeval times and the early Renaissance, but lessened in popularity later on. However, ottavini remained very popular as domestic instruments in Italy. In England, [Samuel Pepys](#) makes many mentions of his "tryangle" in his diary, which references the usual shape of these instruments. In the Low Countries, ottavini were commonly paired with an [8'](#)virginals, encased in a small cubb under the soundboard. The ottavino could be removed and placed on top of the larger virginal, making an effect like unto a double manual instrument. These are sometimes called 'mother-and-child'^[citation needed] or 'double' virginals.^[6]

Other

The [archicembalo](#), built in the 16th century, had an unusual keyboard layout, designed to accommodate variant [tuning systems](#) demanded by compositional practice and theoretical experimentation. More common were

instruments with [split sharps](#), also designed to accommodate the tuning systems of the time.

The [folding harpsichord](#) was an instrument that could be folded up for travel.



Harpsichord by [Alastair McAllister](#), Melbourne, 1999, and a rare pedal harpsichord, by Hubbard & Broekman, Boston, 1990

Occasionally, harpsichords were built with a pedal keyboard. While these were mostly intended as practice instruments for organists, there are some pieces composed specifically for the pedal harpsichord. [\[citation needed\]](#)

Compass and pitch range

On the whole, earlier harpsichords have smaller [ranges](#) and later ones larger, though there are many exceptions. The largest harpsichords have a range of just over five [octaves](#) and the smallest have under four. Usually, the shortest keyboards were given extended range in the bass with a "[short octave](#)".

Tuning pitch is often taken to be $a=415$ Hz, roughly a semitone lower than the modern standard concert pitch of $a=440$ Hz. An accepted exception is for French baroque repertoire which is often performed with $a=392$ Hz, approximately a semitone lower again. Tuning an instrument nowadays usually starts with setting an A; historically it would commence from a C or an F.

History



Ruckers-Taskin (1646/1780) harpsichord, (Paris, Musée de la Musique)

Main article: [History of the harpsichord](#)

The harpsichord was most probably invented in the late Middle Ages. By the 16th century, harpsichord makers in Italy were making lightweight instruments with low string tension. A different approach was taken in Flanders starting in the late 16th century, notably by the [Ruckers](#) family.

Their harpsichords used a heavier construction and produced a more powerful and distinctive tone. They included the first harpsichords with two keyboards, used for [transposition](#).

The Flemish instruments served as the model for 18th century harpsichord construction in other nations. In France, the double keyboards were adapted to control different choirs of strings, making a musically more flexible instrument. Instruments from the peak of the French tradition, by makers such as the [Blanchet](#) family and [Pascal Taskin](#), are among the most widely admired of all harpsichords, and are frequently used as models for the construction of modern instruments. In England, the [Kirkman](#) and [Shudi](#) firms produced sophisticated harpsichords of great power and sonority. German builders extended the sound repertoire of the instrument by adding [sixteen foot](#) and [two foot](#) choirs; these instruments have recently served as models for modern builders.

In the late 18th century the harpsichord was supplanted by the [piano](#) and almost disappeared from view for most of the 19th century: an exception was its continued use in opera for accompanying [recitative](#), but the piano sometimes displaced it even there. 20th century efforts to revive the harpsichord began with instruments that used piano technology, with heavy strings and metal frames. Starting in the middle of the 20th century, ideas about harpsichord making underwent a major change, when builders such as [Frank Hubbard](#), [William Dowd](#), and [Martin Skowroneck](#) sought to re-establish the building traditions of the Baroque period. Harpsichords of this type of historically informed building practice dominate the current scene.

Music for the harpsichord

From the 16th century to the baroque

The first music written specifically for solo harpsichord was published around the early 16th century. Composers who wrote solo harpsichord music were numerous during the whole **baroque** era in European countries including Italy, Germany, England and France. Solo harpsichord compositions included dance **suites**, **fantasias**, and **fugues**. Besides solo works, the harpsichord was widely used for accompaniment in the **basso continuo** style (a function it maintained in **operatic recitative** even into the 19th century). Well into the 18th century, the harpsichord was considered to have some advantages over the piano.

After the baroque

Through the 19th century, the harpsichord was almost completely supplanted by the piano. In the 20th century, composers returned to the instrument, as they sought out variation in the sounds available to them. Under the influence of **Arnold Dolmetsch**, **Violet Gordon-Woodhouse** (1872–1951) and in France, **Wanda Landowska** (1879–1959), were at the forefront of the instrument's renaissance.

Concertos for the instrument were written by **Francis Poulenc** (the *Concert champêtre*, 1927–28), **Manuel de Falla**, **Bertold Hummel**, ^[7]**Henryk Mikołaj Górecki**, **Michael Nyman**, **Philip Glass**, and Roberto Carnevale. **Bohuslav Martinů** wrote both a **concerto** and a **sonata** for the instrument, and **Elliott Carter**'s *Double Concerto* is scored for harpsichord, piano and two chamber **orchestras**.

In chamber music, **György Ligeti** wrote a small number of solo works for the instrument (including *Continuum*), and **Henri Dutilleux**'s *Les Citations* (1991) is scored for harpsichord, oboe, double bass and percussions. **Josef Tal** wrote *Concerto for harpsichord & electronic music* (1964) and *Chamber Music* (1982) for s-recorder, marimba & harpsichord. Both **Dmitri Shostakovich** (*Hamlet*, 1964) and **Alfred Schnittke** (*Symphony No.8*, 1998) wrote works that use the harpsichord as part of the orchestral texture.

Harpsichordist **Hendrik Bouman** has composed pieces in the 17th and 18th century style, including works for solo harpsichord, harpsichord concerti, and other works that call for harpsichord continuo. Other contemporary composers writing new harpsichord music in period styles include **Grant Colburn**, Miguel Robaina, Fernando de Luca and Gianluca Bersanetti. Notable performers include **Oscar Milani** and **Mario Raskin**.

During the second half of the 20th century, the sound of the harpsichord (or perhaps rather more often, its electronically created equivalent) became

very familiar in popular culture, appearing frequently in [popular music](#), television, films, computer games, and so on.

Notes

1. [^] [a b](#) Hubbard 1967, 19
2. [^] Hubbard 1967, 20
3. [^] Hubbard 1967, various locations
4. [^] [a b](#) Dearling 1996, 138
5. [^] Hubbard 1967, 77
6. [^] Marchand, Leslie Alexis (1973). *Byron's letters and journals: 1816-1817 : 'So late into the night'*. Harvard: Harvard University Press. p. 75. [ISBN 9780674089457](#). "Model IX is the famous double virginal. An ottavino of model VIII is inserted into the case of the virginal like a drawer slipping into a bureau."
7. [^] [Bertold Hummel list of works](#): Op. 15 is his *Divertimento capriccioso* for harpsichord and chamber orchestra.

References

- Boalch, Donald H. (1995) *Makers of the Harpsichord and Clavichord, 1440-1840*, 3rd ed., with updates by Andreas H. Roth and Charles Mould, Oxford University Press, [ISBN 0-19-318429-X](#). A catalogue, originating with work by Boalch in the 1950s, of all extant historical instruments.
- Dearling, Robert (ed.) (1996) *The ultimate encyclopedia of musical instruments*, London : Carlton, [ISBN 1-85868-185-5](#)
- Hubbard, Frank (1967) *Three Centuries of Harpsichord Making*, 2nd ed., Harvard University Press, [ISBN 0-674-88845-6](#). An authoritative survey by a leading builder of how early harpsichords were built and how the harpsichord evolved over time in different national traditions.
- Kottick, Edward (2003) *A History of the Harpsichord*, Indiana University Press, [ISBN 0-253-34166-3](#). An extensive survey by a leading contemporary scholar.
 - O'Brien, Grant (1990) *Ruckers, a harpsichord and virginal building tradition*, Cambridge University Press, [ISBN 0-521-36565-1](#). Covers the innovations of the Ruckers family, the founders of the Flemish tradition.
- Russell, Raymond (1973) *The Harpsichord and Clavichord: an introductory study*, 2nd ed., London : Faber and Faber, [ISBN 0-571-04795-5](#)
- Skowronek, Martin (2003) *Cembalobau: Erfahrungen und Erkenntnisse aus der Werkstattpraxis = Harpsichord construction: a craftsman's workshop experience and insight*, Fachbuchreihe Das Musikinstrument **83**, Bergkirchen : Bochinsky, [ISBN 3-932275-58-6](#). A study (written in English

and German) of harpsichord building by a leading figure in the modern revival of historically authentic methods of building.

- Zuckermann, Wolfgang (1969) *The Modern Harpsichord: twentieth century instruments and their makers*, New York : October House, [ISBN 0-8079-0165-2](#)

External links

- [Procembalo](#) complete free catalog of Contemporary Harpsichord Music
 - [A brief history of the harpsichord](#)
- [Harpsichord maker Carey Beebe has a comprehensive website about harpsichords](#)
- [Italian Harpsichord-Building in the 16th and 17th Centuries](#) by Shortridge
 - [A harpsichord site with images](#)
 - [A harpsichord constructed from Lego](#)
 - [Hear the sound of various harpsichords](#)
 - [Extensive source of harpsichord information](#)
- [HPSCHD-L is a mailing list devoted to early stringed keyboard instruments](#)
 - [HarpsichordPhoto is a site devoted to photographs of early stringed keyboard instruments](#)
- [Ernest Miller Harpsichords: Creations in the French and Flemish Traditions](#)
 - [Interview with harpsichord builder Jack Peters](#)
 - ["Queen Elizabeth's Virginal". *Furniture*. Victoria and Albert Museum.<http://www.vam.ac.uk/collections/furniture/stories/virginal/index.html>. Retrieved 2007-08-12.](#)
- A few historic harpsichords from the collection at [The Metropolitan Museum of Art](#)
 - [Double virginal by Hans Ruckers, Antwerp, 1581](#)
 - [Harpsichord by Girolamo Zenti, Rome, 1666](#)
 - [Harpsichord by Jan Couchet, Antwerp, 1650](#)
 - [Octave virginal, Augsburg, ca. 1600](#)
 - [Spinnetta or Virginal, Venice, ca. 1540](#)
 - [Golden Harpsichord by Michele Todini, Rome, ca. 1675](#)
 - [Harpsichord, Italy, late 17th century](#)
 - [Harpsichord by Pleyel et Cie, Paris, 1928](#)

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