

How to Buy a Piano - Make the Right Choice

By [Ira Langlois](#) – [Fifth generation piano technician](#)

Taking the time to choose the best instrument is as important to the youngest of all beginners as it is to a more accomplished performer at a university. It is one of the wisest choices a musician can make as well.

As a piano technician, music educator, and purveyor of fine instruments, I have had the enjoyable experience of watching hundreds of piano students start, grow, improve, and mature in their musical education. During these many years of guidance to novice piano enthusiasts, [I came up with a generalized performance chart to help explain the five types of pianos and their relationship to performance.](#)

An explanation of this relationship is the average growth pattern of an average child or adult plotted on a graph. This, of course, does not take into consideration the gifted student or the adult with an enormous desire, or burn to learn, and has three hours a day to invest.

I'd like to start with couple of basic ideas before further explaining the actual [performance chart.](#)

In the United States, there are over one hundred years of performance pianos in existence. This presents a large difference in overall playing condition. Everything about the piano must be taken into consideration: Breakdown of the musical content due to old strings, bridges, sound boards, hammers, and even key actions.

The piano is as good as the summation of all the working components. In other words, it is as good as its "weakest link". Unfortunately, time is generally not kind to pianos.

Tuning and caring for pianos in the Pacific Northwest, I have experienced the pleasure of tuning 125 year old pianos to pitch and I did not argue; but this is a rarity. The extreme variations of the environment, 100% humidity in the summer, zero humidity in the winter, breaks down pianos dramatically.

Interestingly enough, the same quality of piano on eastern seaboard states have about half of the average life expectancy as pianos in my region. As you can see, age and environment are important factors in your choice of which piano to purchase.

Overall quality is another biggie. Historically speaking, the standard was "good, better, or best" at the turn of the century in America, which is very different from the lower D and F grades found on the market today. It's important to remember that those lower grades are, unfortunately, all that much of our culture can afford. I believe that if we could turn back the clock, we would all invest in the wonderfully handcrafted American classic grand piano, which was built between 1900 and 1920. At that time, lumber would have been stockpiled 25 years before it was even made into a piano! These were the men who

had an incredibly strong desire to create a supreme instrument, and their dedication to their craftsmanship would not have allowed them to use lesser materials.

First, let us concentrate on the [5 levels of a piano's performance](#) and see if we can get clarification on these points. After we have mastered the types of pianos and how they relate to its performance we will direct our energy towards today's market. We'll learn how the many makers of pianos relate their quality to performance, and also talk about how to get the best value for your pocketbook while taking into consideration your experience level and your expectancy regarding the lifetime of the piano you'd like to purchase.

[My chart lists 5 piano types.](#) At the very top I show a half of a level, signifying the 80-100 year old classic upright pianos, which were mostly built around the turn of the century in the United States. What most often hinders the performance of these beautiful art-case instruments is that they are worn out, and broken down due to general neglect, which is most often due to the environment. The severe climactic changes have broken down the fine wood structure which has endured pressure of 38,000 pounds of torque.

Having grown up in the northwest, I have seen less damage due to the environment. This is because our humidity levels are more moderate when compared to most other parts of the country. What is prevalent, however, is the age factor. Generally speaking, when a piano reaches 100 years of age it is tired and stressed. Wood breaks down under pressure and many wonderful 1900-1920 pianos of high stature that are crippled in this way get remanufacturing or rebuilding of either minor or major proportions. The cost of minor rebuilding starts at around 10 thousand dollars, and any major remanufacturing can run as much as 20 thousand dollars or more depending on overall size, type (baby grands and concert grands), the material used during that task, and the artist that is performing the duty. So, as one can imagine, the rebuilding of old and classic pianos most often does not get done.

There are, of course, always exceptions. There are rare pianos, classics, and sometimes even the sentimental journey of restoring great grandma's prized piano.

The old classic upright piano may be a wonderful tool, however it is purely a beginners practice piano. If it is in good standard play, and is tunable to a 440 pitch it may be quite useful in giving you an idea of the level of piano you might want to invest in after you have been using it for a year.

After ninety years, the actions are quite worn, the components have large pockets of frictions, and the play is weak and sloppy. Even one that is well maintained, and is running as good as it possibly can, is still functioning on my graph at half a level, which is generally good for a beginner child 6-10 years of age.

[Level one is what I have categorized as a spinet piano.](#)

The interesting history of the American spinet lies in its introduction to the marketplace. It was introduced just after WWII at a time when we, as a society, became more mobile and needed a more functional, smaller instrument. There was the need of easy budget and more diverse cabinetry, as well. There was a baby boom, and young American families needed such an instrument. The spinet filled this role.

On the design development of the spinet the engineers had to reduce the height. To accomplish this they cut the length of the key off, which in turn cut the leverage. They then shortened the string and soundboard areas giving the instrument a smaller tone with a poor harmonic quality. The definition of a spinet is 36 inches in overall height and having an indirect blow action. After cutting off the keys, designers stuffed the action down in front of the keys and connected it with another assembly lever creating indirect action, or, "drop action". They had no dynamic range and were difficult to service, as well as being expensive to repair.

As technology improved in the 1960s and 70s, new countries such as Japan and Korea began implementing the production of assembly line pianos. They began to build pretty good pianos at a rate of about 100,000 units per year. Unfortunately, this was too much for the 22 small "ma and pa" piano manufacturers in the United States, and by 1975, the conglomerate buyout and folding of 75% of those 'ma and pa' companies began. This was the era where the [level 2 piano](#) had its heyday.

Modern-day injection of overseas ideas brought the console piano to the forefront. As a taller instrument, 40-42 inches in height, string length now matched that of a small grand. The action change was now direct blow action, but still was limited to a compact size. Still engineered, but downsized, from the old classic upright so it could fit into the modern, smaller cabinets so endeared by the young, fast-growing baby boomers. Still comparative in cost, as well, although the furniture styles became more lavish; with white and gold, ebony high polish, and avant-garde contemporary styles. Each of these pianos competed for the just-perfect tasteful cabinet design and touch response, as well as overall focus on tonality. The companies that survived had really brought out the unique qualities of their own engineers, and the strengths that had high selling points to the consumer.

With the use of the computer, some innovative manufacturers were able to have the new logarithms of mathematics analyze the types of sounds they felt were the most popular. At last, piano manufacturers (and rebuilders!) were beginning to understand what it would take to achieve the exact sound that they were trying to create. By measuring string length, diameter, and breaking point, they now had a formula to measure quickly and accurately any piano that they were designing or rebuilding, whereas the old method of mathematical logarithms took weeks, and were cumbersome. A direct comparison could now be made to different types of sounds and what created these many different intonations.

There are around 200 piano makers around today, each creating their own voice to the instrument. There are some pianos with the type of overall tonal qualities that lend themselves to a particular style of music.

Let's just classify in two groups; contemporary/modern to Viennese/classical. Generally, with the classical, the traditional European makers had stuck to just that tone quality - old world classic sound. On the far side of the coin, the modern, has been perpetuated by the Japanese/Korean maker starting in the 70's when they began mass producing 100,000 pianos annually. Their assembly line efficiency, along with very precise design practices, was engineering wizardry that had never been employed at such a rate. A good piano could once again be purchased with some fundamental upgrades in tone and performance.

[Level 3](#), the studio piano, is the piano you have seen in your school or church for many years. Now 45 to 46 inches tall and employing the standard full-size piano action, designed after the old classic-upright style action, it had a slightly more streamlined design. When thinking of a studio piano, most people think of a bulky cabinet, larger school wheels, locking keyboard, and a tougher cabinet style because this is what was considered a studio piano, certainly not for home décor. As competition warmed up in the race for market share, manufacturers began focusing more on performance obligations and the wiser consumer, as well as out-competing the other competitors in the piano races. The studio piano will always have its place with the professionals, too. Its massive back assembly allows fairly adequate string length and soundboard area to produce a decent harmonic quality equal to a medium/small grand piano. Since it has the full size piano action, tonal expression, with the use of longer heavier key action components with better leverage, it allows for the pianist to better express themselves.

It's of importance to note that longer strings are needed to have a greater harmonic balance of partials (harmonic patterns). Shorter strings do not go into motion correctly. They do not break up in to equal segments because they are too stiff and short, distorting the harmonic patterns or partials that give us the band of harmonics we hear as the strings are in motion. All in all, the transition to large pianos, better understanding of design, and compassionate piano builders has led to the home studio piano, probably the best value for the average consumer. They offer a technical degree of performance that will satisfy the average pianist or high school music class.

As the pianist enters intermediate competency, they need this [level 3 performance](#) so they can express the composer's thoughts on paper to the color-spectrum pianoforte, while having the ability to play softly and having enough power and energy to color and shade the composer's written phrases.

At the same time, manufacturers began crafting the elaborate cabinets on these home studio pianos which created a significantly larger piece of furniture, generally reaching the 500 pound range. The styles of furniture vary wildly from one region of the country to another, and trends changed as housing booms erupted and baby boomers exploded into the suburban society. Lavish styles of Louis XVI, French provincial, cherries, woods

of all types, classic traditional pieces of traditional walnuts and ebony were among the wide variety of choices. You name it and they came in to style - and then out again! Even the baby blue grand! Our manufacturers had every pastel color a person could want.

[The level 4 piano classified as the professional upright.](#) The definition is 48-52 inches tall. It had full size extended upright action.

The upright has been around longer than the other 3 levels below, but the demand from consumers did not make a comeback to the modern scene until the more educated buyers did their homework. Now with a good string length, equal to medium grand, 5'8"-6'4" in length the pure harmonic tones are pleasing to even the advanced musician. The manufacturers were now in a race, they understood that their audience were upper-intermediate/advanced players, and so they began pulling out all the stops. Super tuning design scales elaborating grand-like touch-weights, more refinement on bridge layouts, plate designs, key action modifications, speed of repetition, up-time of the key, this that can be measured: length of sustain rate. (You can actually measure the speed of an action by measuring a practice scale with your metronome on different brands!)

So we now have become the advancing race in high-tech pianos. The best rate on level 4 pianos for the price seems to come from the high production countries, Japan and Korea. Higher production allowed for research and development which turn hand in hand with higher designs: Of course, [the ultimate level 5 grand piano.](#)

If everyone had the space and the pocketbook they would choose a grand piano! Not only is it very charming to look at, but the design, the shape of a kidney, has an acoustical principal. The shape of the rim parallels the long tenor bridge and consequently reflects its energy back onto the soundboard. The multilayered bent rim creates an energy source like a drum head keeping the perimeter of the soundboard rigid and fixed thus the sustain rate is approximately 46% greater in a grand piano! Mechanically speaking, the leverage of the longer keys and the introduction of the horizontal hammer, which now has gravity working in its favor, has allowed for its over 300 years of evolution to expand the comprehensive design into a sophisticated system of levers and springs that give a limitless ability to repeat the key multiple times without the key coming to its full rest position. The evolution of the repetition lever allows for the support of the hammer assembly, while the main thrusting level, the jack, can work flawlessly and do its job solely forcing the hammer to the string, giving the pianist almost full reign to express subtleties of form, color, and shade. The grand piano is the ultimate expressive machine. In 2005 there were more grand pianos shipped in the USA than any other type of piano.

The key design of the grand probably has the most significant attribute to the overall performance. The touch from key to key is more even. The change in touch from key to key, and a solid feel throughout, allows for a finer degree of resistance which the artist needs in feeling their way through the expressive emotions of their favorite composer. When the hammer strikes the string from below, forcing the energy up, and mixing all the particles and harmonics right in front of you, it gives a better sense of enhancement. It's truly a remarkable accomplishment.

There are many other features that are found on a grand piano that upright or vertical pianos cannot provide. For example, the true soft pedal of the grand (the una corda pedal) shifts the entire keyboard over by approximately $\frac{3}{8}$ of an inch. At that point the hammer misses the 3rd string of the note hence decreasing the volume of that key by one third. A true soft pedal gives instant quiet. That is not possible in a vertical piano, and the advanced students needs this feature. Also, the pedal can be used with just a minor touch to give a subtle shading of the passage. So, with 46% more energy and the ability to decrease the volume by one third instantly, you have a much more controllable levered action, which puts the grand light years ahead on the performance scale.

Now, with the mini grand (or petite grand) measuring 4'6" to world longest piano measuring 10', there are lots of variables. Generally speaking, there are different sizes for different needs. The 9' concert grand fills the need of symphonies, large orchestras, and large halls. The 7' grand, semi-concert; most school auditoriums, smaller community orchestras, and performance centers. The norm for most critical musicians is 6'. The mathematical breakdown of harmonics varies between each manufacturer, the acoustical arrangement in your home, and the overall budget you're staying within. This all leads to varying degrees of choice. The best advice is to choose a piano that you truly enjoy. One that will magnetize you to touch and feel. It has to pass as someone you can become a close friend with.

The petite piano has a string length of around the level one spinet. It is really limited to good tone production though it does have better expression. The best selling baby grand for me is the 5'4" just allowing for decent harmonic clarity, and just enough reflection soundboard energy to produce a satisfying mixture of harmonic tones. As the overall length of the piano increases, the overall key length has to upsize to meet the action geometry so mechanical advantage increases. At each increment of increase in length, the advantage is to support particular lengths of strings, physical capacity, room size, fulfillment of harmonic texture and energy, touch response, weight of the keyboard, and energy displacement. Most teachers advocate six foot length or there about. Today, if a particular maker wants to build a 5'4" or 5'8" grand, they can! I think the household terminology that has carried on over the last 50 years has been correct: That there are more exceptions to the rules today with the production of grand pianos, and quality hand made pianos produced all over the world, that you can't categorize the country as inferior or superior at this point. Look at each maker and their attributes. Remember, there are pianos produced for the first world, second world, and third world countries. And a man will try his darndest to sell it to you!

In conclusion, [choosing the right level](#) is incredibly important in the learning skills or if you are no longer challenged by the level you are playing. An exciting pianoforte opens up a whole new world of color and energy.

Remember, you can start anywhere, but switching next year or the year after gets difficult. There is the correct level for you whether it be entry amateur, professional, teacher, church pianist or jazz club pianist, the local hotel, or the commercial entity needing a heavy duty durable commercial grade. The young teen, dedicated adult, or

advanced adult spending one or two hours a day and who will continue studying music several more years will need a more serious instrument. There is also the family with multiple pianists, with several hours a day of being played. This is a situation where there is definitely a need for higher quality and durability. Now we see a need for a more critical purchase. Best advice - first choose the highest performance level - grand.

I have stayed away from talking about specific brands because performance level must be understood before choosing the manufacturer. If your budget allows your choice to be moderate, then your grand piano most likely will fall into the ten thousand dollar range. Really understand which level you need to secure. If an upright is the only basic size you can fit into your house, and you need a high degree of performance, you choose a level 4 with high end action components. If you are a professional, you are particular about the type of tone quality, more brilliant or mellow and the touch response you are accustomed to playing on.

Generally speaking, each manufacturer has a historical background of origin, and these developments of these instruments have to do with the past and present influences of the people and the music system. Say you are a Japanese maker: The corner-stone system of past centuries developed a brighter, more brittle piano tone; that was their historical background. The eastern European maker Austria, for instance, created the old world softer tones. Central European give a more modern version of the warmer tone except with more clarity and power. As America emerged from the industrial revolution we were the melting pot, and generally our tone development was to create a bigger voice, and in achieving that it made our tone more brilliant than European tones. American tones can be placed in the middle of the spectrum.

I would personally select a new-technology instrument with a higher degree of performance over an older worn out instrument that has the design and engineering of 50-60 years ago, as well as having a generation or two of wear and tear. What has determined the main piano market in recent years is the production of new pianos with reasonable technology at rates below what it would cost to remanufacture, rebuild, or overhaul an older instrument such as old uprights [level 1, 2, and 3](#). [You could go to level 4 or 5 performance](#) today and go right by the older, worn out, pianos that cost a lot to revive correctly. Remember there is always something that has beat the odds, but generally, that is what has happened.

Beware, though, that there are manufacturers out there that have not gotten their technology into the 21st century. This is true especially at the basic entry level for 3rd world countries, and someone is exporting to the US. They are wolves in sheep's clothing. It is better to rely on the knowledge of your reputable piano technician than to bow to the store salesman earning commission and offering a return policy. There are 200 manufacturers from big to small offering multiple levels of performance, so you do not have to settle.

Having tuned and serviced most every piano available, it is my job to keep pianos playing under all of these circumstances. I have learned to judge each for their different abilities,

and I will advocate certain instruments for varying needs. I bring in the best possible instruments that give the most musical values today. That's why [I have seven manufacturers](#), all with different quality, and each unique for the special needs that they address: Entry level, professional, commercial, advanced, and the investment portfolio. The range is wide.

What is very exciting in my world is the [handmade Langlois and Sons' piano](#) line that I personally worked to develop. I have gone directly to one of the newest piano manufacturing facilities who converted to handmade products only, and they are custom-making extreme quality, [high technology designed pianos to my specifications, in level 4 and 5 only](#), at about half of what the robotic brand K and Y's are selling for. Yet the [Langlois and Sons' are totally handmade](#) with wonderful materials.

Look closely before you invest your time and money into this major purchase, because I can provide you with the best product available at this quality that I have experienced in my 4 decades of pianos in the piano world.