

Buying a Clock

Mechanical Clocks

Many clock buyers call me to ask for advice, so here are some general tips on what to look for and what to avoid when buying a clock. I will try to address all types of clocks in this essay, and will try to offer advice to buyers with little or no prior experience with clocks.

Before you buy a clock or watch, you want to consider the cost of ownership. For example, I had a customer years ago who had a top-of-the-line Herschede grandfather clock with nine tubular bells, "The Clock." This clock once cost as much as a Chevrolet Caprice. I provided in-home service several times for this clock, but the owner could not justify the cost of overhaul, less than ten percent of what it once cost, in real terms, so the clock now sits idle. Considering the size and location of one of his homes, the issue was not whether he could afford the expense. Millions of fine clocks sit idle in attics, closets, and storage facilities because of this. You want to consider the overall cost of ownership in the long run before you invest in a fine timepiece. Most mechanical clocks need to be lubricated every five years and overhauled every ten years because the best lubricants last about six years. A typical clock with Westminster chimes has about forty different spots that require lubrication. Grandfather clocks usually require in-home service to set them up every time they are moved, an additional expense. Mechanical watches usually require service more frequently. Many truly expensive clocks are sold on Ebay for a fraction of what they should be worth because those clocks are broken, not appreciating the historical significance of these clocks and how expensive these clocks once were.

The example above applies to expensive clocks. For most smaller clocks, however, the value of the repair exceeds half the market value of the clock. Thousands are sold every year to unsuspecting buyers on Ebay as "runs perfectly, but may need adjustment after shipping." Whether a clock is worth repairing depends on its current market value, or its replacement value, determined by the clock's appearance, age, features, and scarcity. Many people decide to have their clocks repaired for sentimental reasons, even when the cost of repair exceeds half the market value of the clock. They remember their clocks from when they were children, and this is why they want them repaired, so the repair becomes an operating expense, rather than an investment.

When considering to buy a new or used clock, there are hundreds, if not thousands, of choices to consider. If you are looking for a new grandfather (floor) clock, the factors can be simplified. In the United States, there are currently three major manufacturers, [Howard Miller](#), Ridgeway, Sligh, and numerous smaller manufacturers. 2012 update: Howard Miller is, I believe, the only one left. [Howard Miller](#) is considered to be the GM of clocks. The manufacturers produce the cabinets and install the mechanisms and call the results "clocks." Buyers should examine the individual cabinets as they would other pieces of furniture for fit and finish and quality. Cabinets are made of "cherry (or oak) solids and veneers," for example: if you want a "100% cherry (or oak or mahogany)" cabinet, you would have to buy an older clock. There are three major manufacturers of mechanisms, Kieninger, Hermle, and Urgos, all of which are German. As a new clock buyer, I would ask for a [Kieninger](#) mechanism with chimes mounted on the back of the mechanism

(rather than chimes mounted on the side) and cable driven (rather than chain driven) with three weights. I should add that the **Hermle 1171-850** mechanism is the finest Hermle mechanism I have seen (as good as any Kieninger), and it should not be overlooked. Always buy from a clock dealer rather than a general furniture store because a clock dealer can offer you much better after-sales service in the event of problems. Make sure the clock you see in person is the clock you buy, (this is really important), rather than getting a clock delivered from a warehouse, because the unseen clock may not be exactly what you expected, particularly if you buy on the internet. If you do not have experience with clocks, you should avoid buying clocks on the internet because of the risks. Even though two clocks may be of the same model, they may be slightly different in appearance and may have different mechanisms. The unseen clock may have unexpected damage from shipment, a situation which you could avoid if you got the clock you saw in the shop. Be sure to look for dents or scratches on the surfaces of the weights and pendulum and have such problems taken care of before you buy. Avoid buying the least expensive models you see because you usually get what you pay for. If you select a clock costing about forty to fifty percent more than the cheapest models, with a cable-driven Kieninger mechanism as described above, you will probably get a really nice and durable clock. For example, if the lowest prices for new grandfather clocks in your area were about \$1500, you should consider spending \$2250. Prices for new mechanical clocks have essentially doubled between 2005 and 2012. You could buy a much more expensive clock than \$2250, but the mechanism would probably not be much better.

Buying a used clock, especially an antique, is much like buying a used car: caveat emptor (buyer beware)! Most older clocks have not been fully serviced (overhauled) prior to being offered for sale because the cost of overhauling each clock frequently eliminates any profit the dealer could make. Most dealers, therefore, do only the minimum necessary to get the clock running, leaving the buyer with the problem and expense of overhauling the clock a year or two after buying it, if not sooner. If the clock dealer also repairs clocks and has a long-established reputation to uphold, he will probably be telling the truth when you ask whether the clock has been overhauled prior to sale. Be sure to ask. If you are buying at an auction, you are completely on your own (particularly if you are buying in the internet!). Make sure none of the parts are missing (this requires a well-educated buyer). In general, I prefer a clock with weights instead of mainsprings. Spring-driven clocks usually do not last as long as comparable weight-driven clocks. I prefer a clock with a pendulum instead of a balance wheel. Buying a clock with a balance wheel usually involves much more risk, since these are frequently much more difficult to repair if there were problems.

Virtually every new wall clock has a pendulum, but would be spring driven instead of weight driven. There are some used wall clocks that are weight driven, however: these are rather more difficult to find.

Almost all new mantle clocks have mainsprings and balance wheels. These clocks tend to be more user friendly and could be recommended to buyers who know nothing about taking care of a clock. However, these clocks are usually less durable and will need more frequent service. Buying a used mantle clock can be risky unless you know how to check for broken mainsprings (which can be an expensive repair): wind each mainspring until it feels like it is fully wound. If the mainspring is easy to wind and seems to wind forever without becoming fully wound, the mainspring is probably broken. If the clock is fully wound and cannot be wound further, but the clock stops periodically or will not function, then there would be a different problem, such as the pendulum being out of adjustment, or something more serious. A small clock with mainsprings and a shorter pendulum will keep time much less accurately than a comparable clock with a long (39 inch) pendulum and weights.

Anyone looking for anniversary clocks or electric clocks really needs to know what to look for before buying one. An inexperienced buyer should only buy one of these clocks from a clock repairer, who has serviced the clock before offering it for sale. Though some of the older electric clocks were very well made

and durable, most are very badly worn after decades of use and lack of maintenance, resulting in costly repairs.

One special category of clocks to consider carefully is French clocks. The French clock industry produced many of the finest clocks on the market. Many of these clocks were exceptionally well made. However, most of these clocks are not very user friendly, and customers frequently have difficulties keeping them running. If you know how to set up a clock, a French clock would be a fine addition to your home. If you know little about clocks, you would be wise to avoid French clocks in general. French clocks are also considerably more difficult to repair than most German, American, or British clocks. Many avid collectors of French clocks will be disappointed to read this, but very few collectors know how to repair clocks. As a collector and a repairman, I prefer clocks that are not only well made, but also user friendly, reliable, and durable. I believe that a high grade clock which is difficult to keep running, or which needs frequent attention (repairs), is not a desirable clock, regardless of its market value.

Another category is grandfather clocks with tubular bells, such as Elliott and Herschede among older clocks, Urgos and Hermle among newer clocks. Some of these clocks are magnificent creations, offering the most sophisticated mechanisms the industry has to offer. These are, however, very complicated, difficult and expensive clocks to repair, and they require more frequent repairs than other grandfather clocks. Consider one of these clocks only if expense were no object.

Though Atmos clocks by Jaeger Le Coultre (Vacheron & Constantin, Geneva, Switzerland) are fascinating and very high grade (all brass parts are gold plated), they are extremely sensitive and easy to damage (and exceptionally difficult and expensive to repair). Inexperienced buyers should avoid them. Experienced buyers who cannot repair them should also avoid them. Update: I can no longer buy parts for Atmos clocks. I understand that the parts problem also plagues many of the better Swiss watch brands, such as Le Coultre, Vacheron et Constantin, Rolex, Omega, Longines. In 1998, I could buy any part for any of my watches. Not today: if I cannot repair a product because I cannot buy parts for it, I consider it to be a very poor investment and can only recommend against purchasing it until the parts situation improves.

My favourite clocks have chime or strike mechanisms. These clocks have not been made obsolete by quartz clocks. Number one on my list is the French Morbier clock with the bell on top. It strikes on the hour, and then again two minutes later. It also strikes once on the half hour. It has a terrific sound. I would avoid any Morbier with a crown verge escapement and choose an anchor (recoil) escapement.

Number two is the French carriage clock with a strike mechanism, particularly repeaters (with the button on top to activate the strike). I prefer carriage clocks with the English Lever escapement and avoid any clock with a cylinder escapement. These are wonderful antique clocks that allow you to see all the parts in the mechanism through the glass side panels, and the escapement through the top. Like so many other French clocks from the 19th Century, these carriage clocks are some of the highest quality clocks available. The caveats to consider, however, are that these clocks are less robust than other clocks and, like other French clocks, are considerably more difficult to repair than the average clock.

Number three is the Schatz Royal Mariner ship's bell clock with the brass bell, not the gong. A clock does not need to be antique to be desirable, and I think these Schatz clocks have a terrific sound. I like the sound of a Schatz better than the sound of Chelsea clocks, which are also much more expensive and difficult to repair.

Number four is the Jauch clock with Ave Maria chimes. This clock is probably rare. I have only seen two in the last twenty years. Mine is a wall clock from around 1970, and the sound is second to none. The mechanism is as complicated as other clocks with three mainsprings, but the quality of construction is among the best you will find in any modern clocks (made after 1950).

Number five is the Seth Thomas Sonora Chime clock with bells, circa 1931. While severely

overpriced, in my opinion, the sound it produces is wonderful and unique. I think it is overpriced because it is not a high-grade clock, based on the ST89 mechanism. It is quite difficult to repair too. If you do not mind the price, the Sonora Chime would make an enjoyable clock to add to your collection.

Number six is the British grandfather clock. The best clocks were built between 1780 and 1860. I love them because they remind me of my hall of residence at the University of St. Andrews. McIntosh Hall had six of these clocks, donated by alumni. These clocks were entirely hand made. All lathes and tools for making these clocks were operated by hand. Each clock is a piece of history. While they were crudely made compared to French clocks of the same period, the British grandfather clocks have proven to be very reliable and durable. Clocks made before 1780 have brass dials rather than painted dials and, though they are considerably more valuable and desirable to collectors, many of them have design and reliability issues because of poor technology.

Number seven is the Herschede clock with Canturbury Chimes, made in the United States. Herschede also offered Revere clocks as the electric versions of their clocks. Herschede was competing with Elliott clocks, which are more desirable and more expensive. I prefer the sound and quality of Herschede and Revere clocks made before 1960. Buyer beware, however, because not all Herschede mechanisms were top notch, so the buyer needs to know what to look for. You should avoid, for example, any clock with Westminster chimes that has only two weights instead of three. Herschede clocks without tubular bells have mechanisms that are complicated and difficult to repair if they have Westminster Chimes. Herschede electric clocks have mechanical escapements but are electrically wound, an ingenious design and, in my opinion, unreliable. Avoid all Revere clocks made between 1932 and 1936. Consider also that Telechron motors for Revere clocks are no longer manufactured and have become very difficult to find. I have a dozen Herschede and Revere clocks in my collection. I think they are some of the finest clocks made in the 20th Century. Virtually all of them came from Ebay, where sellers unload clocks needing repair for whatever they can get for them.

Another good reason for having your clock repaired is that you support your local economy, whereas buy a replacement supports the location where the clock was made. Searching for a clock repair professional is like searching for a car mechanic. There are thousands of shade-tree mechanics offering clock repair services. Taking your clock to a clock shop is like taking your car to a garage: the quality of the repair depends on which employee did the repair. The employees are often poorly paid, so anyone who becomes good will buy his own tools and leave to become self-employed. Furthermore, most clock mechanics, like most car mechanics, have little training in maths, physics, or chemistry, and such lack of education presents a glass ceiling in acquiring repair skills and understanding. Unfortunately, the same is also true in the watch repair profession. Caveat emptor. My car mechanic, for example, was recommended by a neighbour: he is well educated and self-employed. The best advertisement is word of mouth, so ask your friends whom they trust with their timepieces. If you take your clock to a shop, ask questions. If the repairman does not want to answer questions, take your clock elsewhere. If the shop has a website, check their website for information that shows what they know. Most shops are only really interested in sales, not repairs, and their websites state that they offer the best service in the Universe, what they have for sale, and that they accept Visa, Mastercard, Discover, and American Express. Most clock repairmen are slow and thorough. Twelve weeks for a repair is not unusual. Searching for parts may take longer. However, if your clock is not ready in six months, and you have not received a satisfactory explanation, pick up your clock and take it elsewhere.

More Information

Clocks that are collectible frequently have features that make them difficult and expensive to repair, such as a Brocot escapement. French clocks and Atmos clocks are collectible, but they are much more difficult to repair than other clocks and more difficult to keep running. Carriage clocks and Vienna Regulator wall clocks can be very difficult to repair and need repairs more frequently than other clocks. The same is true for grandfather clocks with tubular bells, such as Herschede and Elliott clocks. Mechanical anniversary clocks look simple but many are difficult to keep running. Most older clocks that are bought used will need repairs because the seller is unlikely to have restored the mechanism, but rather just getting it to run well enough to be able to sell it. I can safely recommend three clocks, the Seth Thomas Ogee 30-hour clock, the Seth Thomas #89 clocks (and similar American clocks with "H" plates), and grandfather clocks with the Hermle 451 series (dated between about 1970 and 1985) mechanisms, though these clocks are abundant and therefore not desired by collectors. These clocks are reliable and very durable. They are simple and therefore easy to repair. They are affordable to buy. There are many other good and more collectible clocks, but more knowledge and experience is required before buying one. Another problem to consider is that the cost of repair will frequently exceed half the market value of the clock, particularly with wall clocks and mantle clocks (such as the three clocks I recommended above), unless you are repairing them yourself.

Before buying a spring-driven clock, try to wind it to see if it has a broken mainspring. If the key turns and you hear the mainspring slip, the spring has broken at the outer end and there would probably be little or no damage to the gears. If the mainspring is fully wound, there is probably no damage either (exceptions sometimes include carriage clocks and French clocks). If the winding key turns easily and there is no load, the mainspring has broken near the inner end and there would probably be considerable damage to the gears. Be sure that parts are not missing, such as the pendulum or weights (if the clock was designed to have them).

Consider the age of the clock before buying. The older the clock, the more desirable and collectible it is. However, clocks made before about 1870 are usually more difficult to repair because the industry lacked good technology in the machines that were used to manufacture clock parts. Parts were finished and fitted by hand. The parts fit together less accurately than parts in newer clocks, which can create problems during repair. Some of the finest timepieces I have seen, in terms of quality and technology, were made between 1910 and 1950. Newer clocks have very accurately made parts, but manufacturers have increasingly been finding ways to lower production costs, frequently at the expense of quality, which is why I do not like most clocks made after 1985.

Quote of the Day:

"Value (like beauty) is in the eye of the beholder." - Dean Lebaron.

Quartz Clocks

These clocks have an important place in the market because they can offer insuperable timekeeping at the lowest possible cost. I believe the best quartz clocks on the market today to be the radio-controlled digital clocks (also called "atomic" clocks). Avoid the ones that take AAA or N batteries and choose one with C or AA batteries instead. The analog clocks (with hands) are also good, but they can be more difficult to adjust: the digital ones set themselves automatically! In the United States, these clocks adjust themselves every day using signals from the WWV.

Few quartz clocks are radio-controlled. If you want a regular quartz clock, look for one with a Tochigi (Japan) mechanism. Braun and Junghans (both German) also make very good quartz mechanisms. Many quartz clocks have a pendulum, which swings from side to side as decoration. Some also have synthetic chimes. These features add considerably to the complexity of the mechanism, and usually fail before the timekeeping portion of the mechanism fails. Keep it simple and avoid these features. Particularly prone to early failure is the oscillating pendulum of quartz anniversary-style clocks, which should be avoided.

The most frequent cause of failure in battery-operated clocks is leaking batteries. If acid from a leaking battery reaches the circuit board or the micro-chip in the clock, the clock is probably ruined and the mechanism would need to be replaced. You can reduce the risk of acid damage by inserting a small piece of tissue paper next to the negative terminal of each battery, using a toothpick or a tweezer. The tissue paper would absorb most of the acid and minimise the risk of damage to the clock, camera, radio, TV remote, telephone, or whatever you have that uses batteries.

I hope you find this information useful.

Mark Headrick