

minute men

REVOLUTIONARY HOUR-CHIMING TIMEPIECES ADD A NOTE OF BEAUTY TO YOUR COLLECTION.

BY ROBERTA NAAS | PHOTOGRAPHY BY KENJI TOMA

When dealing with a craft that is centuries old, it isn't easy to invent something new. However, when building luxury timepieces—an art that is more than 500 years old—watchmakers dedicate their energy to working tirelessly with tiny mechanical pieces that translate into coveted, innovative collectibles.

Complicated watches are the ultimate draw, commanding hundreds of thousands of dollars at retail, with waiting lists several years long. Among the most complex watches on the market, the repeater—or sonnerie—truly stands alone.

Easily the most beautiful of all timepieces, a repeater is one that not only shows the time, but also musically chimes it. With hundreds of tiny mechanical pieces of less than an inch in diameter in its movement, the repeater watch houses hammers and gongs that work in unison to audibly tell time with melodious notes.

Bill Lind, watch expert at Royal Jewelers in Andover, notes, “Each minute repeater has its own unique character. Two of the same reference side by side will have slightly different sonic profiles in terms of pitch, resonance, and pace, just as no two Steinway pianos sound alike.”



From **Harry Winston**, this **Midnight Minute Repeater** (\$279,500) is crafted in 18k rose gold and built in a limited edition of just 20 pieces. The 42mm watch features off-centered hours and minutes, and a transparent sapphire case back for viewing the movement. *Neiman Marcus, Copley Place, 617-536-3660; harrywinston.com*

This **Ulysse Nardin Safari Jaquemarts Minute Repeater** (\$375,000–\$405,000) features two baked enamel cloisonné dials. It houses the caliber UN 72 manual wind that indicates the hours, quarters, and minutes on two different chimes, with two animated Jaquemarts. The 42mm watch is offered in a limited edition of 50 pieces each in 18k rose gold or platinum. *Royal Jewelers, 58 Main St., Andover, 978-475-3330; ulysse-nardin.ch*

This 44mm **Hublot Big Bang Minute Repeater Tourbillon** (\$290,000) is crafted in 18k red gold and houses a manual-wind HUB 8000 skeleton minute repeater tourbillon movement with 308 components. It chimes the time on two gongs. *Tourneau, Copley Place, 617-267-8463; hublot.com*



From **Breguet**, this *Classique Grande Complication 7637 Minute Repeater* (\$227,700) features innovative positions for the gongs, gong rests, and hammers. The patented design houses a minute repeater movement featuring a subdial for the seconds at 9:00 and a 24-hour display with day and night sectors at 3:00. The 18k white-gold gongs of the repeater offer a crystal-clear chime. The hand-wound movement is visible via a transparent, sapphire caseback. *Tourneau, Copley Place, 617-267-8463; breguet.com*

With minute repeaters, the wearer activates the “repeater” sound function via a slide or button on the side of the watch. This engages the hammers and gongs, which chime the time in a series of different tones. The timepieces work via a complex mechanical network of gears, trains, and memory. Typically they have between 500 and 600 pieces in their movements, and sometimes more.

“Complications are the highest achievement in the watch-making art,” says Jean-Claude Biver, chairman of the board of Hublot. “Which complications are currently in demand may vary, but they always prevail despite economic crises or trends.”

Many brands work with metallurgists and audiologists to find the perfect mix of case metals, gong springs, and hammers to achieve the best sound. Until recently it was believed that rose gold had the most alluring tones, but with the introduction of newer high-tech materials such as titanium and carbon fiber, some brands, such as Hublot, are experimenting with these alloys.

“We have entered a new era for complications,” Biver says. “By introducing our minute repeater in a carbon case we have perfected the sound. Carbon offers the best vibrations and so is an excellent source for making the chimes extra loud. And since watchmaking is an ever-evolving art, using new materials is an extra asset or added value.”

Other recent innovations are smaller movements to reduce watch size, new slide-activation mechanisms and silencers, as well as new complex functions to join the repeater. Jaeger-LeCoultre not only miniaturized its repeater system, but also developed an entirely new one to fit into a rectangular caliber to create the *Reverso Minute Repeater*. Patek Philippe has released the first-ever ultra-complex minute repeater, chronograph, and instantaneous perpetual calendar all-in-one wristwatch.

Minute repeaters were developed from the chiming systems of tower clocks built in the 14th and 15th centuries. From tower clocks, English watchmaker Daniel Quare successfully applied a repeater mechanism to table clocks around 1678.

In 1783, Abraham-Louis Breguet (often called the father of modern repeating watches) invented a gong spring to replace the traditional bell, which was placed within the timepiece movement. Small hammers would strike the gong. This invention improved sound quality and enabled watchmakers to begin creating ever-smaller repeating timepieces, so that pocket watches—and in the 20th century, wristwatches—could hold similar systems.

There are many different types of repeaters and sonneries on the market, albeit in extremely limited numbers, as these watches are so difficult and time-consuming to create. Among the types of repeaters are the much-coveted minute repeater (that strikes on the hour, quarter-hour, and minute); quarter repeater (that strikes on the last hour and the last quarter hour); and five-minute repeater (that strikes on the last hour, the quarter hour, and every five minutes past the last quarter hour). Each strike of time has its own distinct sound thanks to the complex system of different hammers and gongs in contrasting reverberations.

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Another realm of chiming watches comes in the form of sonneries. These watches strike on the hour and quarter-hour without the wearer needing to press a button. There are *Grand Sonneries* (that combine the quarter striking mechanism with the repeater, so on the quarter hour it strikes the hour and the number of quarters since the hour passed) and *Petit Sonneries* (that do not have repeater functions, but simply strike on the hour and quarter hour). Girard-Perregaux has even created a series of musical watches, dubbed *Opera*, whose mechanisms work on the principle of a music box. The *Opera Three* has a heart that is a miniature carillon and a keyboard of 20 blades and one drum set with 150 hand-assembled pins. When it turns, the drum lifts the keyboard keys to play one of two melodies.

Additionally, some brands excel at creating repeaters with *Jaquemarts*, or automatons, on their dials. These moving pieces act in concert with the sounds striking. Ulysse Nardin is an expert in this arena and offers several coveted *Jaquemarts* repeaters. Recently, the brand released the *Alexander the Great Minute*

Repeater Westminster Carillon Tourbillon Jaquemarts, which features a one-minute tourbillon, along with a repeater that houses four gongs to chime the time. On the dial is one moving *Jaquemarts* of Alexander the Great wearing a red cape that takes action every time the gongs sound. Just 100 pieces of this watch will ever be made.

“Today’s watch collectors are most excited about watches that challenge the way we think about telling time,” says Michael Groffenberger, director of watch operations at Shreve, Crump & Low. “With limited-edition watches, there are usually more customers than watches because these pieces challenge the status quo.”

Indeed, today’s repeaters and sonneries usually take months to build, and the customer must be as patient as the watchmaker in Switzerland, meticulously building that single piece to extreme standards of excellence. **BC**