



PATEK PHILIPPE
GENEVE

Press Release

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Patek Philippe Ref. 5531R World Time Minute Repeater. **For the very first time, a minute repeater sounds local time anywhere in the world.**

Minute repeaters and the World Time function play a pivotal role in the portfolio of Patek Philippe's complicated timepieces. With its chiming watches, the Genevan manufacture has defined the benchmark for decades, as evidenced by their exceptional acoustic quality, the broad range of models and variations, and the interesting combinations with other complications. Patek Philippe's World Time watches with cloisonné enameled dials are legendary as well; they rank among the most coveted timepieces at auctions worldwide. In the Ref. 5531 World Time Minute Repeater, the engineers in Geneva merged these two complications for the first time in Patek Philippe's history – and also in an unprecedented way: the time is always struck as indicated by the hour and minute hands for the time zone represented by the city aligned with the 12 o'clock position.

Patek Philippe's engineers can take on any horological challenge, including the development of innovative complications – as in the Grandmaster Chime – or combinations of functions never before attempted. This applies especially when the issue is to integrate functional mechanisms into one another. With the Ref. 5531 World Time Minute Repeater, they took on this challenge with a peerless degree of ingenuity. All other minute repeaters with 24 time zones systematically strike home time even if they and their owners are far away from home. Conversely, Patek Philippe's Ref. 5531 World Time Minute Repeater, chimes the time, accurately to the second, at its current location.

The whole world's time at a glance

For over 70 years, Patek Philippe World Time (also called universal time) wristwatches have been mainstays in haute horlogerie. The Genevan manufacture instantly recognized the potential of Louis Cottier's idea. In the 1930s, the Genevan master watchmaker invented a remarkable system capable of displaying the time in all 24 time zones as referenced by the cities printed on the dial or engraved in the bezel. In 1999, the manufacture fundamentally improved the functionality of its World Time watches by adding a patented mechanism. When moving from one time zone to another, this solution allows all three time zone indications to be corrected with a single pusher. A single actuation adjusts the city disk, the 24-hour disk, and the center hour hand by one-hour steps without affecting the rate accuracy of the movement. Now, the challenge was to join this mechanism with a minute repeater in a way that would best address the purpose of such a watch. The result is Patek Philippe's new self-winding caliber R 27 HU movement with the World Time function and a minute repeater.

The melody of time for any place in the world

The owners of a World Time Minute Repeater want more than to see the time in all of the world's 24 time zones at a glance. They also want a highly legible reading of the time at their current location, on demand also acoustically with the incomparable sound of a Patek Philippe minute repeater. This goal has now been achieved by the manufacture for the first time in horological history.

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Until now, minute repeaters with the World Time function were only able to chime home time as previously defined with the crown – because the two complications operated independently from one another. An acoustic local time indication requires the World Time display with the rotatable city and 24-hour rings to be mechanically coupled with the chiming mechanism.

This is easier to understand by first looking at a conventional minute repeater: The heart of its mechanism consists of three cams, referred to as snails: the hour snail with twelve steps, the quarter snail with four steps, and the minute snail that has four wings with 14 steps each. At any given point in time, these snails are in clearly defined positions. The minute snail is firmly connected with the quarter snail; it has a pin which advances the 12-hour star with the hour snail by one increment after each full revolution. As soon as the minute repeater has been activated with the slide in the case flank, the steps of the different snails are consecutively sampled. Each passage from one step to another triggers a strike on a given gong. If the chiming mechanism is activated at 5:37, the hour beak slides across five steps, causing the lower-pitched gong to be struck five times. Then, the quarter feeler glides across two steps and triggers two high-low double strikes on both gongs to indicate two quarter hours. Finally, the minute feeler samples 7 steps of the third wing of the minute snail, triggering 7 strikes of the high-pitched gong: 7 minutes. The time is 5:37. All this takes place in tiny dimensions with millimeter-size parts of complex shapes that are less than a tenth of one millimeter thick and microscopically small pins as well as filigreed steel springs which are difficult to recognize as such by the naked eye. Only the best among all master watchmakers can navigate with confidence in this microcosm.

In the caliber R 27 HU of the Ref. 5531 World Time Minute Repeater, this mechanism features fundamental changes with new designs and new components for which patent applications have been filed. While the minute and quarter snails remain interconnected on the cannon pinion, the hour snail is now continuously driven by the time-zone wheel of the World Time mechanism rather than being controlled by the quarter snail. Here, the patented solution with the continuously rotating World Time function makes it possible to advance the 12-hour star with the hour snail to one-second accuracy. In Patek Philippe minute repeaters, the time window from one hour strike to the next is merely one second. An example: Until 5:59:49, the acoustic time indication for 5:59 is 5 hour strikes, 3 double strikes for three quarter hours, and 14 minute strikes for a total of 25 strikes. Only one second later – at 5:59:50 – the watch strikes 6 o'clock (6 hour strikes). Once the 10 seconds have elapsed, the hands show exactly 6 o'clock when the last minute strike is completed. In a conventional minute repeater, this is easier to control because the hour snail is advanced by the quarter snail in jumping increments. Given the continuously rotating hour snail in the World Time Minute Repeater, this is a much more complex process, but the patented Patek Philippe solution handles it very precisely and with great elegance. Once again, the manufacture delivers proof that it masters the technology of chiming watches and the integration of additional complications.

As soon as the minute repeater is actuated with the slide in the left-hand case flank, the mechanisms that execute the hour, quarter, and minute strikes briefly interact to sound the melody of time with the acoustic quality and rhythmic harmony that is characteristic of Patek Philippe strikework masterpieces. Concurrently, the World Time mechanism is blocked so that for the duration of the time strike – while the delicate snails, racks, wheels, and levers are engaged – no time zone adjustments can take place. And as is the case with all Patek Philippe World Time watches, an adjustment of local time with the pusher at 2 o'clock does not have a negative influence on the rate of the movement.

A further patented modification distinguishes the Ref. 5531 World Time Minute Repeater from other Patek Philippe watches: its two gongs (one high-pitched, the other low-pitched) are attached to the



caseband instead of to the plate of the movement. This challenges the watchmaker who assembles the watch. But for Patek Philippe's president Thierry Stern, who personally assesses the sound of each minute repeater prior to delivery, this extra effort is justified because "it perceptibly improves the acoustic experience of this new and very extraordinary grand complication."

It takes 462 individual parts – crafted to the highest degree of precision, carefully finished in compliance with the directives of the Patek Philippe Seal and assembled with a steady hand – for the caliber R 27 HU to perform its functions dependably, sonorously, and precisely. Of course, it also fulfills the rate accuracy benchmark of -3 to +2 seconds per day as stipulated by the Patek Philippe Seal. As an additional complexity, the caliber R 27 HU movement is self-winding. Its 22K gold minirotor is fully recessed in the bridge plane. It borrowed its architecture from the basic R 27 caliber that was originally launched in 1989 on the occasion of the manufacture's 150th anniversary. With the legendary movement, Patek Philippe succeeded in reviving the wristwatch with a minute repeater. Thanks to its design, although highly elaborate, the caliber R 27 HU movement is remarkably thin: only 8.5 mm at its thickest point.

A gem of elegance

With its new Ref. 5531 World Time Minute Repeater, Patek Philippe reasserts its expertise in design and casemaking. Despite its height of 11 mm, the silhouette of the 18K rose-gold case is exceptionally svelte and elegant. This is due to the generously skeletonized lugs, the sharply slanted bezel, and the shape of the glass. All three features make the watch appear less voluminous. The hand-guilloched hobnail pattern, typical for Patek Philippe, choreographs the reflections of the light and underscores the elegance of the timepiece. The same motif adorns the slide in the left-hand case flank for actuating the minute repeater, assuring consistency of style. In contrast, the pathway of the slide is horizontally satin-finished. As an attractive glossy accent, the time-zone pusher at 2 o'clock is polished. The case is fitted with a sapphire-crystal display back as a show window for true watchmaking artistry: it reveals the chamfered bridges with Geneva striping, the guilloched minirotor in 22K gold, and the gold-plated Calatrava cross cover on the centrifugal governor of the chiming mechanism. This view remains unforgettable, even when the interchangeable solid 18K rose-gold case back is mounted.

The dial as a gallery of sublime artisanship

Extensive work is involved in endowing dial, made of 18K gold and German silver, with the city disk, the 24-hour disk, and the artistically adorned center with its captivating countenance. As always at Patek Philippe, the premise is that aesthetic immaculacy must be paired with superb legibility. The city disk is lacquered silvery white opaline; the place names are printed in black. Particularly noteworthy: Central European Time is not represented by Paris as usual but rather by Geneva to emphasize the Lac Léman theme of the dial, as was already the case with the World Time watches introduced to salute the 175th anniversary of the manufacture in 2014. On its day half (7 am to 6 pm) with the engraved sun symbol, the numerals of the rose-gold 24-hour disk are engraved and tinted brown. The night half (7 pm to 6 am) is brown, highlighting the rose gold glow of the engraved numerals and moon symbol. A small work of art occupies the center of the dial, saluting the heritage of Patek Philippe World Time watches: an artistic cloisonné enamel depiction of the Lavaux winegrowing region – a UNESCO World Heritage site – with a lateen-rigged boat that has set sail. The enameler requires nearly two weeks to complete the fascinating image with its soft color nuances. First, he must shape the individual compartments (cloisons) of the motif with fine flattened gold wire strips that are affixed to the gold substrate on their edges. Then, he begins to fill the cloisons with enamel paint. After each filling, the dial must be fired in a special kiln at



about 850°C. The artist has to anticipate how the high temperatures will alter the color of the enamel. Thus, opaque, translucent and transparent enamel mixtures are applied coat after coat and consecutively fired until the miniature work of art is finished: a classic Léman scenery with a diameter of 17.1 mm. Incidentally, the Ref. 5531 is the first and only Patek Philippe minute repeater decorated with cloisonné enamel. The 18K rose-gold hour and minute hands hover above the Lavaux landscape. Both are lapped and feature a sharp center ridge. The shape of the hour hand is reserved for World Time watches. Carefully pierced, it traces the silhouette of the “Southern Cross” constellation. The watch is worn on a hand-stitched shiny chocolate brown alligator strap with large square scales, secured with an 18K rose-gold fold-over clasp.

With its Ref. 5531 World Time Minute Repeater, Patek Philippe is again presenting a grand complication never before implemented in this way. The watch comes in a rose-gold case with a dial that seductively pairs technical innovation with an authentic Genevan tradition. The Ref. 5531 is a sonorous, mechanically ingenious, and aesthetically appealing manifestation of top-tier watchmaking artistry as upheld by Patek Philippe.





Technical data

Ref. 5531 World Time Minute Repeater

Movement:	Caliber R 27 HU Ultra-thin self-winding mechanical movement. Minute repeater with local-time strike. 24 time zones. Local time
Diameter:	32 mm (basic caliber: 30 mm; World Time module: 32 mm)
Height:	8.5 mm (basic caliber: 5.2 mm; World Time module: 3.3 mm)
Number of parts:	462
Number of jewels:	45
Power reserve:	48 hours
Winding rotor:	22K gold minirotor, unidirectionally winding
Frequency:	21,600 semi-oscillations per hour (3 Hz)
Balance:	Gyromax®
Balance spring:	Spiromax® (in Silinvar®)
Balance spring stud:	Adjustable

Displays:	With hands:
	• Center hours and minutes
	With disks
	• City disk with 24 place names
	• 24-hour disk

Functions:	Two-position crown:
	• Pushed home: To wind the watch
	• Pulled out: To set the time

Pushers:	Time-zone pusher at 2 o'clock (local time setting in 1-hour increments)
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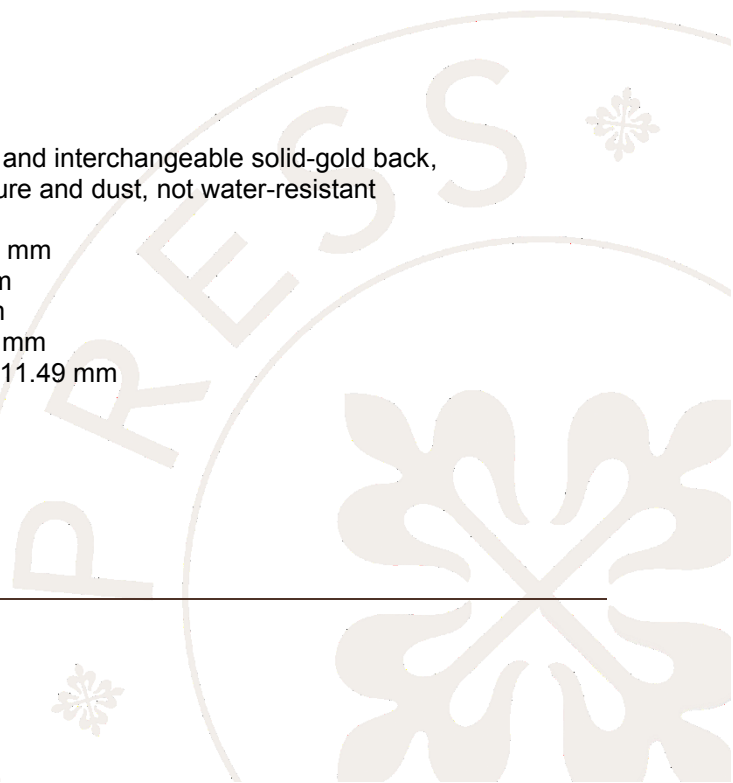
Minute repeater actuation:	Slide in left-hand case flank
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Hallmark:	Patek Philippe Seal
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Features

Case:	18K rose gold 5N Sapphire-crystal display back and interchangeable solid-gold back, Case protected against moisture and dust, not water-resistant
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Case dimensions:	Diameter 10 to 4 o'clock: 40,2 mm
	Width 9 to 3 o'clock: 43.83 mm
	Length across lugs: 47.35 mm
	Height (crystal to lugs): 12.08 mm
	Height (crystal to case back): 11.49 mm
	Width between lugs: 21 mm





- Dial:
- City disk in German silver, lacquered opaline silvery white with place names printed in black
 - 24-hour disk in 18K rose gold 5N, day hours engraved and brown tinted – engraved sun symbol, night hours and moon symbol engraved in brown background
 - Center 18K gold, cloisonné enamel with polychrome depiction of Lavaux landscape on Lake Geneva
 - Hour and minute hands in 18K rose gold, lapped, hour hand with “Southern Cross” silhouette, pierced
- Strap:
- Alligator leather with large square scales, hand-stitched, shiny chocolate brown, fold-over clasp in 18K rose gold

