

Reference 6104

Caliber 240 LU CL C



Self-winding wristwatch with date, sky chart,
time of meridian passage of Sirius,
time of meridian passage of the moon,
orbital position of the moon, and moon phases.

The Reference 6104, a Patek Philippe astronomical Grand Complication, presents several functions that are exceptionally uncommon in a wristwatch. It permanently showcases the heavenly canopy over the northern hemisphere, emulating the apparent movement of the stars as well as the positions and phases of the moon in the course of a lunar cycle. This fascinating celestial ballet

surrounded by the fire of 38 baguette diamonds set in the bezel is choreographed by the self-winding caliber 240 LU CL C movement, which despite its complexity is only 6.81 mm high. The astronomical indications are complemented by a central date hand that points at the date scale on the outermost periphery of the dial.

Celestial mechanics

To implement the fascinating vision of a moving nocturnal sky, Patek Philippe developed a system of superposed disks that rotate at different speeds and convey an amazing impression of depth. The background is provided by a sapphire-crystal disk in a wheel with 279 teeth; it tracks the orbital position of the moon. Via a planetary gear system, it also drives a wheel with a small disk that displays the moon phases in a small round aperture. A 356-tooth wheel above it rotates a transparent disk that depicts the sky chart on the front side and a representation of the Milky Way on the opposite side. The three disks, each merely two tenths of a millimeter thick, are protected by the sapphire-crystal glass, which on the inside features an elliptical contour that frames the portion of the heavens that are visible from Geneva and all other places with the same geographical latitude.

Stellar precision

With this unique mechanism, Patek Philippe has achieved a nearly incredible degree of precision in the astronomical depiction of the heavenly canopy. A lunar day is defined by the time that elapses between two consecutive passages of the moon across a given meridian; on average, it lasts 24 hours, 50 minutes, and 28.328 seconds. A lunation (the period of time between two consecutive full moons) has an average duration of 28 days, 12 hours, 44 minutes, and 2.82 seconds. A sidereal day is defined as the time between two consecu-

tive passages of a fixed star (such as Sirius) across a given meridian; its average duration is 23 hours, 56 minutes, and 4.09892 seconds.

To assure correct displays, these deviations from mean solar time require appropriate step-up and reduction gear ratios in the going train that transmits the force from the spring barrel of the movement to the individual astronomical indications. Some of these ratios rely on the accuracy of the moon-phase display versus the sidereal day, others on the accuracy of the sidereal day versus the orbital position of the moon, etc. Overall, more than 25 billion (25,000,000,000,000) variations were calculated for the transmission ratio pairings of the going train. From this staggering number of ratios, Patek Philippe picked the optimal set that resulted in the smallest possible deviations for all displays. The outcome of the computations surpassed all expectations:

- The deviation for the lunar day is 0.05 seconds per day, 18.385 seconds per year, or 30 minutes and 38.5 seconds per century.
- For a sidereal day, the deviation is 0.088 seconds per day, 32.139 seconds per year, or 53 minutes and 33.9 seconds per century.
- The moon-phase deviation is 6.51 seconds per lunation.



Instructions

WINDING CROWN

The winding crown at 2 o'clock is used to wind the watch (position 1) and to set the time (position 2). The winding crown at 4 o'clock is used to set the moon and the sky chart.

WINDING

Your watch has a self-winding movement. The movements of your wrist set a rotor in motion; this tensions the mainspring which stores the energy. Off the wrist, your watch has a minimum power reserve of 38 hours. When it has stopped after depleting the power reserve, it can be rewound by hand until the movement restarts (about 20 clockwise turns of the crown).

Caution: Please wind the watch before you put it on. This way, you can avoid lateral pressure on the winding stem which in the course of the years could damage the stem tube. Turn the crown gently and uniformly and stop as soon as you feel resistance; if you wind the watch too vigorously, this might damage the movement.

SETTING THE TIME

To set the time, pull the crown out, and turn it in either direction. Once the correct time is set, press the crown home again. Please set the time before you put the watch on. This prevents lateral pressure on the winding stem. We recommend that you turn the crown only with two fingers and use your fingernails to pull it out.

DATE CORRECTION

To correct the date, press the push piece at 9 o'clock as often as needed to display the correct date.

Caution: *the date change mechanism is active between 10 pm and 2 am. During this time, the date should not be adjusted with the aid of the correction push piece.*

ASTRONOMICAL INDICATIONS

Note:

If your watch has stopped running, rewind it by hand until the movement restarts (about 20 clockwise turns of the crown) before performing any corrections. Correction push pieces should be actuated exclusively with the correction stylus that was delivered with the watch. The use of any other tool could damage your timepiece.

All adjustments must be performed in the order described below. For information on adjusting the Ref. 6104 Celestial, please consult our website www.patek.com.

COLLECTION › Grand Complications › 6104R-001 and scroll down to the adjustment procedure for Sky Moon Tourbillon.

SETTING THE MOON

To set the moon, pull the crown at 4 o'clock to position 2 and turn it clockwise.

- By turning the crown, set the full moon to the letter "S" (a small arrow index at the moon simplifies the alignment procedure). This adjustment may require up to 28 revolutions of the dial!

- In the program on the website, the first line with the title "Moonphase Revolution" indicates how many revolutions of the dial are necessary to display the correct moon phase for the current date. (For instance, the number "5" means that you need to rotate the arrow-shaped moon index past the letter "S" five times.)

- To set the moon phase to the current time of day, look up the "Moon adjustments" line to find the correct number of "Large divisions" and "Small divisions" on the scale, then advance the moon index by that many large and small divisions by turning the crown at 4 o'clock.

- After performing these settings, press the crown home again.

SETTING THE SKY CHART

To set the sky chart, pull the crown at 4 o'clock to position 2 and turn it counterclockwise.

- Align the sky index (small arrow in the Milky Way) with the letter "S".

- In the program, look up the "Sky adjustments" line to find the correct number of "Large divisions" and "small Divisions" on the scale, then advance the sky index by that many large and small divisions by turning the crown at 4 o'clock. The scale is located on the outermost periphery of the dial.

- After performing these settings, press the crown home again.

Movement features

Self-winding mechanical movement

Caliber 240 LU CL C



CELESTIAL WITH DATE

DIAMETER	38 MM
HEIGHT	6.81 MM
NUMBER OF PARTS	305
NUMBER OF JEWELS	45
POWER RESERVE	MIN. 38 HOURS, MAX. 48 HOURS
WINDING ROTOR	OFF-CENTER MINIROTOR IN 22K GOLD, UNIDIRECTIONAL WINDING
BALANCE	GYROMAX ®
FREQUENCY	21,600 SEMI-OSCILLATIONS/HOUR (3 HZ)
BALANCE SPRING	BREGUET
HALLMARK	PATEK PHILIPPE SEAL

Care and maintenance

PATEK PHILIPPE SEAL

The Patek Philippe Seal applies to the entire watch, including the movement, case, dial, hands, pushers, strap, and clasp as well as to all other facets that contribute to the precision and aesthetic perfection of the timepiece. It covers the technical, functional, and aesthetic factors, but also rate accuracy, dependability, and customer service quality. Additionally, it reflects the maker's know-how and all other assets needed for the development, production, and long-term maintenance of an extraordinary time-keeping instrument.

QUALITY CONTROL

The movements and completely assembled watches are subject to a series of technical tests and visual inspections to verify their rate accuracy, winding speed, power reserve, reliability, water resistance, and overall appearance. After it was assembled, your self-winding watch will already have run for about 14 to 30 days before leaving the workshops; it fully complies with the stringent criteria of the Patek Philippe Seal.

WATER RESISTANCE

Your watch is fitted with different types of seals to protect the movement against the ingress of dust and moisture and to prevent damage if it is immersed in water. However, if your watch receives a blow to the crown or the crystal, its

water resistance may be impaired. Never pull out the crown or activate the pushers or the correctors in a humid environment or underwater, as the water resistance of your watch would no longer be guaranteed under these conditions. If your watch has a leather or satin strap, we recommend that you avoid directly exposing it to water altogether.

SERVICE

We recommend that you have your watch serviced every 8 to 10 years. The best way to do this is to bring your watch to an Authorized Patek Philippe Retailer who will be happy to forward it to our workshops for you. You can then be assured that your watch will be inspected and overhauled by a qualified master watchmaker at Patek Philippe headquarters in Geneva.

The watchmaker will completely disassemble the movement and then inspect, clean, and lubricate all the individual parts prior to reassembly. All functions of the watch will also be tested in detail and the escapement regulated if necessary. Finally, its rate accuracy will be monitored and precision-adjusted for a further period of at least two weeks. The entire process may take several weeks because each watch must undergo a complete series of tests to fulfill the strict quality criteria of Patek Philippe.

If you have any questions regarding the maintenance of your watch, contact the Authorized Patek Philippe Retailer nearest you or our International Customer Service department in Geneva, or visit www.patek.com.