

A detailed close-up of a luxury watch movement, likely a Patek Philippe, viewed through a transparent case back. The movement is made of polished metal, with visible gears, jewels, and a large rotor. The rotor is engraved with 'PATEK PHILIPPE' and 'JEWELRY-FOUR'. The text 'ADJUSTED' is also visible. The watch has a gold-toned case and a dark dial. The background is dark and textured.

THE DAVID DUGGAN WATCHES GUIDE TO

Horological Complications

David Duggan



WELCOME

I HAVE ALWAYS LOVED COMPLICATED POCKET WATCHES AND WRISTWATCHES – THERE’S SOMETHING ABOUT THE CORRELATION BETWEEN THE TIME SPENT CREATING SOMETHING AND THE VALUE THAT CREATES THAT RESONATED WITH ME SINCE I WAS A YOUNGSTER.

I struck out on my own back in 1983, after a fledgling career buying and selling pocket watches for my brother. At around this time, Swiss-made wristwatches were experiencing a renaissance and I found I could quite easily sell whatever I was wearing on my wrist at the time to invest in the next one.

But I was still wet behind the ears, arriving in London with only my ancient Volkswagen Jetta and a sports bag with a squash racket poking out. This seemed like a good way to conceal the contents, which were no more than a little ring box, some gold chains, a few antique rings and £2,500 in cash. I didn’t care. I was off dealing.

I headed down from Manchester to London’s Bermondsey Market, wanting to get there first thing so I could catch breakfast with the other grimy watch dealers eating bacon sarnies – I wanted to be one of the boys. In reality, I found about 30 bustling stalls laden with jewellery and just about everything else, and wondered how I was ever going to make a living. I was more than nervous.

But I kept going and soon learned that the Saturday morning market on Portobello Road was the real source of activity for international watch dealers. The trouble was, I quite liked playing golf on a Saturday. But when my beloved late partner Denise asked, ‘Do you want to be a businessman or a golfer?’ I realised I had reached a real crossroads in my life and, as always, Denise helped me to make the right choice. I went to Portobello Road every Saturday morning for several years after that.



It was here that I began to fall in love with the highly-complicated world of Patek Philippe wristwatches – I wanted them all, chronographs, perpetual calendars etc. and the more complicated the better. Despite the evident skill involved in each piece, Patek was harder to sell than Rolex, but I liked the people who wanted them. Amongst the Portobello Road dealers, I quickly found my niche.

The world has changed since I made that first journey down to London, but one thing remains constant – my admiration for the craftsmanship that goes into horological complications. It’s hard not to be a little awed by it when you know that perpetual calendars from top watch houses like Patek Philippe and Urban Jurgensen take more than 12 months of highly-specialised work to create.

To celebrate this passion and mark my 35th year in business, I’m pleased to share this complications guide with you. It has been designed to offer the reader, be they a complications enthusiast like me or a newcomer to this fascinating world, a slice of history – that of the complications themselves and my own as a luxury preowned watch dealer.

I hope you enjoy it.

“Complications are things we normally avoid in life, but in watches ‘complications’ are considered highly desirable. Each complication adds to the value of a watch and, indeed, to the pleasure of owning it.”

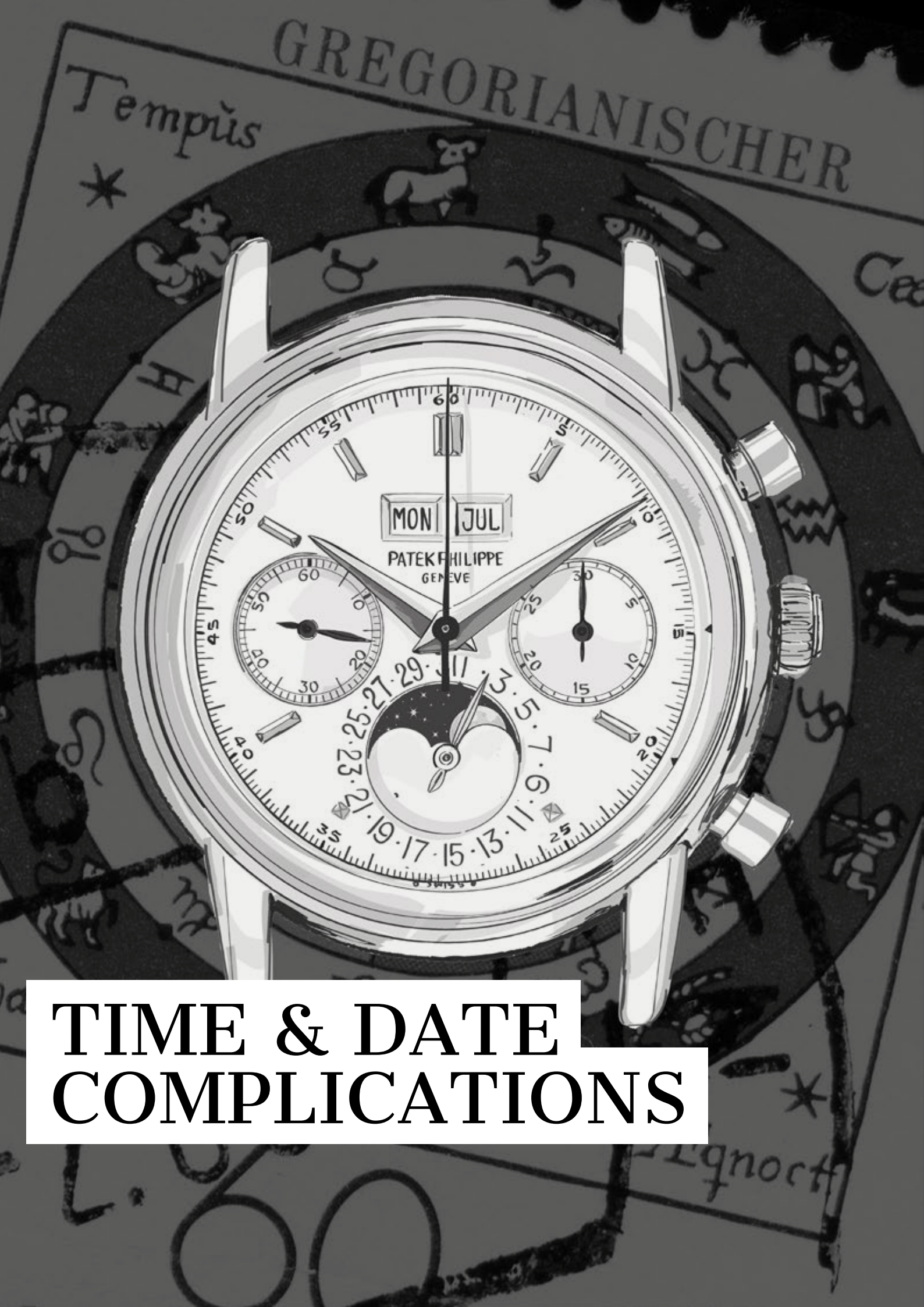
—MICHAEL KORDA

Marking Time: Collecting Watches and Thinking about Time

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TIME & DATE COMPLICATIONS



Date Display

A JUBILANT LAUNCH

Rolex launched the first Oyster Perpetual Datejust to coincide with the manufacture’s 40th anniversary. It was a landmark in watchmaking: the first-ever automatic wristwatch with an automatically-changing date window. It was also the first timepiece to feature a new type of gold bracelet, known as the ‘Jubilee’.

ENTER THE CYCLOPS

A decade later, Rolex introduced the next big date display innovation – its Cyclops lens, increasing date legibility by two-and-a-half times.

ON THE WRIST OF HISTORY

American Baptist minister and civil rights activist Dr Martin Luther King Jr wore a Rolex Datejust on a Jubilee bracelet while delivering his ‘I have a dream’ speech at the Lincoln Memorial in 1963 during the March on Washington for Jobs and Freedom. Fifty years later, King featured in a series of Rolex ads alongside other notable Rolex wearers, such as artist Pablo Picasso, actress Sophia Loren and singer Elvis Presley, with the strapline: ‘It doesn’t just tell time. It tells history.’

THAT’S LIFE

In 1951, Rolex presented General Dwight D Eisenhower – later, the 34th US President – with a solid gold ref 6305 to celebrate the company’s 150,000th timepiece. The watch was engraved with the initials ‘DDE’ and five stars to represent his rank. A year later, Eisenhower wore the watch on the cover of *Life* magazine.

DATE CREATED:
1945
FIRST DEVELOPED BY:
Rolex
WHAT IT DOES:
Tells the wearer what the date is. It must be manually adjusted at the end of all 30-day months, as well as February.



ROLEX DATEJUST 116234

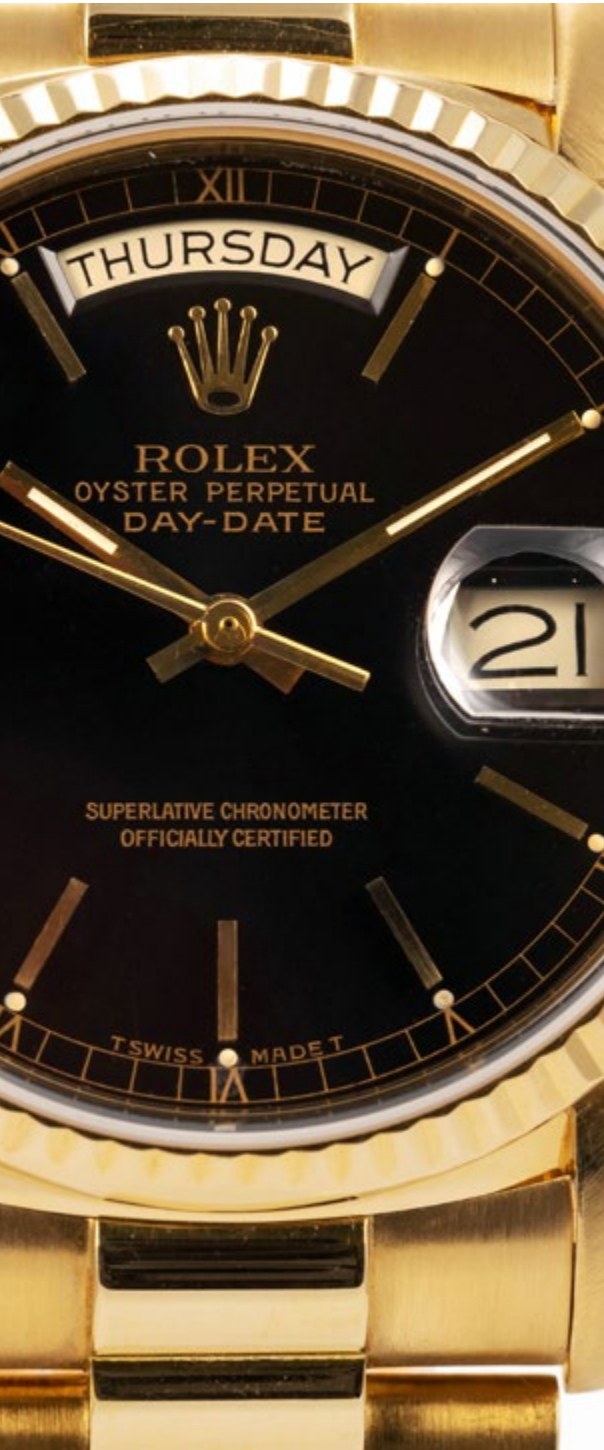
“After telling the time, the next thing most people use a watch for is to check the date. Phones are handy, of course, but there’s still something wonderfully efficient about checking the time with a quick flick of the wrist.”

—DAVID DUGGAN

DATE CREATED:
1956

FIRST DEVELOPED BY:
Rolex

WHAT IT DOES:
Allows the wearer to see the day of the week as well as the date.



ROLEX DAY-DATE 118238

Day-Date

FIT FOR A PRESIDENT...

Available in 18k gold or platinum, the Rolex Day-Date came with a new bracelet – known as the President. Some stories say it got its name thanks to President Lyndon Johnson. Photos taken inside the Oval Office show the 36th US President wearing a Day-Date. In 2016, Rolex marked the timepiece’s 60th anniversary with a new Day-Date in Everose gold and a dial featuring its signature green.

AND HIS MISTRESS...

In 1962, Hollywood actress Marilyn Monroe gifted her married lover, President John F Kennedy, a gold Day-Date, with the inscription ‘JACK With love as always from MARILYN May 29th 1962’. That night, she also caused a public scandal by singing ‘Happy birthday, Mr President’ on stage wearing a dress that shimmered in such a way that she looked practically naked. The story goes that Kennedy told his assistant, Kenneth O’Donnell, to ‘get rid’ of the watch. Forty-three years later, it reappeared, accompanied by a box and poem written by Marilyn, and was sold at auction for \$120,000.

PARLEZ-VOUS ANGLAIS?

Today, the Rolex Day-Date is available with the day of the week in 26 different languages.

HACKER ALERT

In 1972, Rolex introduced the ‘hacking’ feature, which meant that the seconds hand stopped while the wearer was adjusting the time, to ensure accuracy.

“I distinctly remember seeing a photo of the USA Ryder Cup golf team in 1979. Every member was wearing a Rolex Day-Date – great marketing.”

—DAVID DUGGAN



“I started out in my 20s and fell in love with complicated pocket watches immediately. I love the inner workings; in some of the early pieces, it’s like looking inside a cathedral for me. I was enthralled whenever I saw a watchmaker take every piece out and put it back together again. They’d have all the bits out on the desk, talking to me as they were reassembling it. It was all done by feel, like shuffling cards.”

DATE CREATED:
Unknown

FIRST DEVELOPED BY:
Vacheron Constantin and Rolex were making triple calendars in the 1920s.

WHAT IT DOES:
Features the month of the year as well as the day and date.

Triple Calendar

A RETRO ICON

The triple calendar complication was originally developed for pocket watches, but became popular in wristwatches during the mid-20th century, with everyone from Rolex to Vacheron Constantin introducing their own take on it. It’s never quite reached the dizzying heights of the more complicated perpetual and annual calendars, but the Jaeger-LeCoultre Master Control and newer Master Calendar both have a retro, simple beauty about them.

IMPERIAL CONNECTIONS

In 2017, the Rolex ref. 6062 ‘Bao Dai’ sold at auction for just over \$5 million. This 18k gold triple calendar with moonphase is one of only three Rolex black dial models in the world and is the only one to feature diamond markers at the even hours. It once belonged to His Majesty Bao Dai, the last emperor of Vietnam. It took just eight minutes to complete the bidding war.

JAEGER-LECOULTRE MASTER CALENDAR MOONPHASE



Annual Calendar

A MODERN CLASSIC

Developed by Patek Philippe just two decades ago, this complication caused an immediate stir. The advanced mechanics mean that the wearer only needs to manually adjust the month once a year – at the end of February. The annual calendar is a popular choice with watch collectors as it offers the traditional feel of a perpetual calendar without the price tag. This is because the wheels are easier to produce and assemble than the more complex cam and lever required in the perpetual calendar.

IT’S ALL IN THE PATENT

Although Patek took out a 25-year patent on its complication, it was incredibly specific on the structure of the mechanism, which meant other manufactures were able to take the idea and engineer their own unique versions almost immediately.

PATEK PHILIPPE 5036/1G ANNUAL CALENDAR



DATE CREATED:
1996

FIRST DEVELOPED BY:
Patek Philippe

WHAT IT DOES:
Features day, date and automatic month adjustment (except February).

“I do have a soft spot for the Patek Philippe ref. 5396R-012, which pays tribute to the 20th anniversary of Patek’s patented annual calendar. Rose gold with Breguet numbers, its beauty lies in its simple aesthetic. A lot of the other watch houses have copied Patek Philippe since it introduced the annual calendar, but none as successfully as the Rolex Sky Dweller. It’s an incredibly subtle complication with a lot of technology housed in the bezel. All the technicians are wearing it, which tells you a lot.”

—DAVID DUGGAN



DATE CREATED:
1762/1864

FIRST DEVELOPED BY:
Thomas Mudge/Patek Philippe

WHAT IT DOES:
Displays the day, date and month, and automatically adjusts for leap years.

“The first-ever complicated watch I saw and loved was a perpetual calendar. It was the Patek Philippe ref. 3448 and I remember reading about it in the *Daily Mail*. Patek had been making perpetual calendars for years, but this was its very first self-winding perpetual calendar. I couldn’t get my head around the fact that it allowed for the leap year.

“The 3448 was the only perpetual calendar that Patek Philippe made between 1961 and 1985 and they have shot up in value over the past 35 years.”

—DAVID DUGGAN

PATEK PHILIPPE 5970R PERPETUAL CALENDAR



Perpetual Calendar

EARLY BEGINNINGS

The earliest known perpetual calendar complication was invented in 1762 by English horologist Thomas Mudge and features in a pocket watch that is held by the British Museum in London.

EVOLUTION UNDER PATEK PHILIPPE

Although Patek Philippe created its first perpetual calendar pocket watch in 1864, it would be another 25 years before it patented its highly-complicated mechanism. Then, in 1898, the manufacture developed the first compact perpetual calendar movement for a woman’s pendant watch. It was this mechanism that it used in 1925 to make its first perpetual calendar wristwatch. The watch was commissioned by a collector and took two years to make.

OTHER CLAIMS TO THE CALENDAR CROWN

Breguet introduced its ref. 4244 instantaneous perpetual calendar four years after Patek Philippe. However, it has a reasonable claim as the first true perpetual calendar wristwatch, since the Patek Philippe used a converted pocket watch movement. The ref. 4244 featured around 100 moving parts and an instantaneous ‘jump’ system that advances all the calendar functions at the same time. Purchased by Mr Dollfus in 1934 for CHF11,000 (Swiss Francs), it was an extraordinary piece of craftsmanship. In 2011, the timepiece was sold at a Christie’s auction for \$475,618.

A FEAT OF ENGINEERING

A typical perpetual calendar complication can require as many as 200 additional parts and take months to make.

TIP

“Make sure when you’re adjusting your perpetual calendar that you set the hands to 9am, as there are no dials or boxes changing over at this time. The period to avoid is between 5pm and 2am, when the moonphase starts to move over and the other dials change at around midnight.”

—IAN FORSTER, Onsite Technician



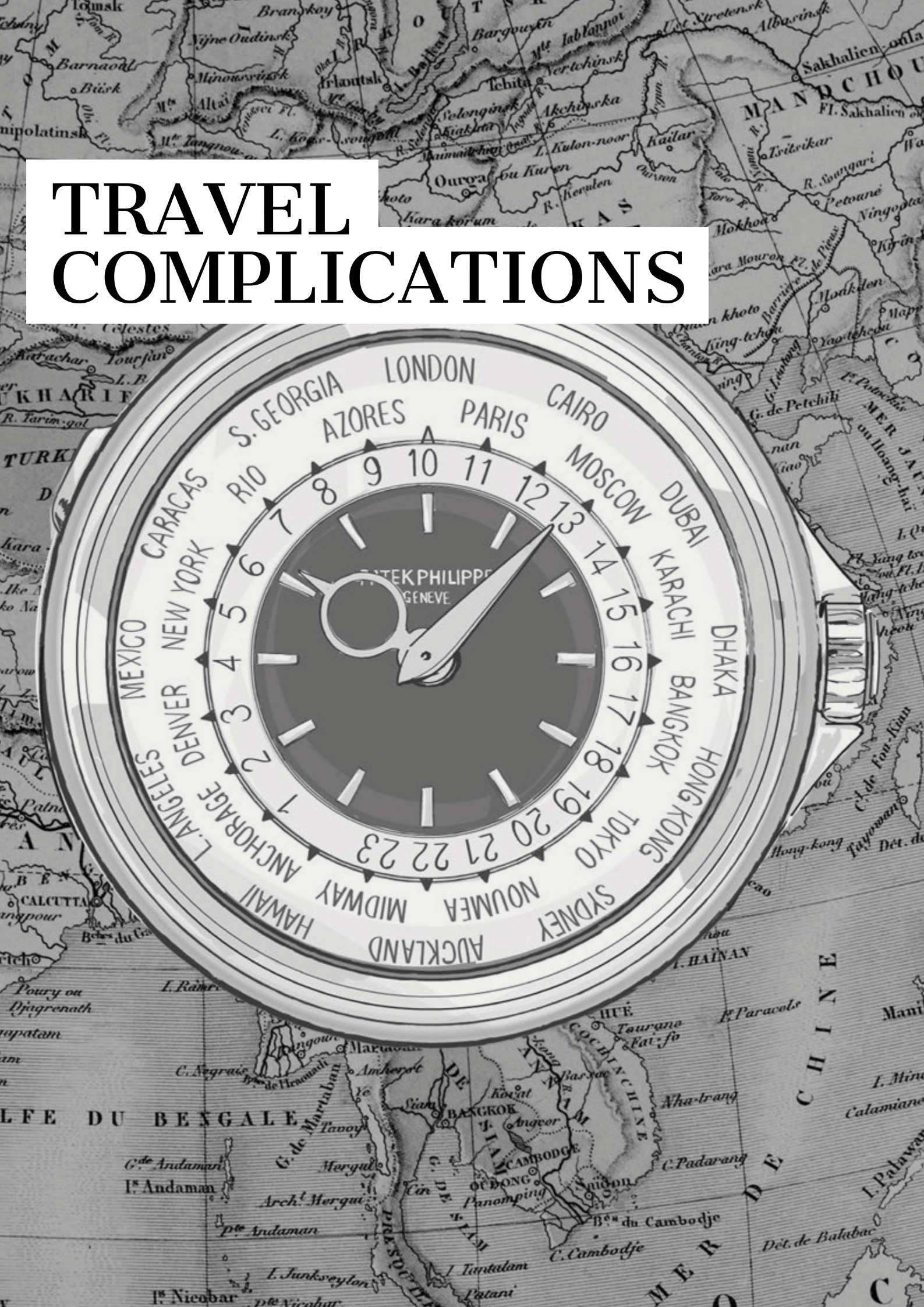
“The Patek Philippe ref. 2499 first series perpetual calendar might be one of the most important watches of my career. In 1996, a gentleman sold me his 2499 – a 21st birthday gift 40 years earlier. I sold it to a collector friend less than 12 hours later and immediately regretted it. I spent years trying to buy it back from him, but could never quite afford his asking price. Then, a decade later, he wanted to help his children start university on the right foot and offered the timepiece to me. He drove a hard bargain and, at the time, I paid what I believed to be £50,000 over the asking price.

“A few days later, I showed it to a friend from Sotheby’s and we discovered that the name Asprey was included on the dial and – more importantly – engraved inside the gold case. We knew we had an unusual timepiece on our hands. My friend persuaded me to put it into auction and I just hoped it made back my money.

“On the afternoon of the auction, he called and I knew instantly that he was excited. The 2499 had sold for just over CHF2 million, a new world record for a wristwatch in a Sotheby’s auction at the time. I almost fell off my chair. No one ever knew I was the owner of that watch.”

PATEK PHILIPPE 2499 PERPETUAL CALENDAR,
Photo courtesy of Sotheby’s

TRAVEL COMPLICATIONS

A luxury Patek Philippe world time watch is the central focus, featuring a white dial with a rotating bezel that displays various cities. The watch is set against a background of a vintage map, which includes labels for regions like 'Mandchou' and 'Sakhalien', and cities like 'Peking' and 'Tientsin'. The watch's dial is white with a black outer ring showing city names and a black inner ring showing the 24-hour scale. The bezel is white with black city names. The watch has a polished metal case and a matching bracelet. The background map is a detailed, aged map of East Asia, showing various geographical features and place names in French and Chinese characters. The overall composition suggests a theme of global travel and exploration.

DATE CREATED:
1954

FIRST DEVELOPED BY:
Rolex

WHAT IT DOES:
Allows the wearer to know the time in multiple time zones using a 24-hour rotating bezel.



“I love the Rolex GMT, particularly the GMT-Master II ref. 16710. Rolex has evolved the model over the years, but there is a consistency to it – both in aesthetics and engineering – that means it remains one of the most easily recognised and popular timepieces. It’s definitely one of my favourite travel watches.

“For an extra £100, you can get three different bezels - blue and red (Pepsi), black and red (Coke), or just black. Three different looks for great value. It’s caught a few collectors in my time who have found themselves with several Rolexes on their hands, when all they wanted was a change of colour!”

—DAVID DUGGAN

GMT

TIME FLIES...

Rolex has made a name for itself designing timepieces for specific purposes and the GMT-Master is no different. As flying distances increased in the 1940s and ’50s, pilots needed increasingly accurate timepieces. So, Rolex worked in partnership with Pan Am Airlines to create the GMT-Master. For the first two years of production, the timepiece’s distinctive two-tone, 24-hour rotating bezel was made of Bakelite. However, this cracked easily and was eventually replaced with aluminium. More than 60 years later, the GMT-Master remains a firm favourite with pilots, frequent fliers, the US Air Force and NASA astronauts.

WHAT’S IN A NAME?

Each GMT-Master has its own nickname, taken from the 24-hour bezel’s different colour options. The red and blue ‘Pepsi’ model is a perennial favourite in the David Duggan showroom. There’s also a blue and black ‘Batman’ edition. The idea is that each version allows the wearer to express their personality.

THREE IS THE MAGIC NUMBER

In the 1980s, the GMT-Master II 16760 became an instant smash with Rolex fans when an extra hand was introduced, so that the wearer could read three different time zones at once.

DID YOU KNOW?

While China and India only have one time zone, Greenland uses four.

THE NAME’S BOND...

The original GMT-Master ref. 6542 can be seen on Pussy Galore’s wrist in the 1964 James Bond film *Goldfinger*.



ROLEX GMT-MASTER 16700

PATEK PHILIPPE WORLD TIME 5230R



World Time

LIKE FATHER, LIKE SON

Louis Cottier was one of the most iconic watchmakers of the 20th century, but it was his father, Emmanuel, who built the very first world time system in 1885. Cottier Senior was approached by the chief engineer of the Canadian Railway, who was fed up with having to change his watch all the time – in those days, many towns and cities operated on their own local clock, making train times very difficult to predict. While not a success, the system inspired Louis – a double Patek Philippe prize winner before he’d even completed his apprenticeship – to develop his ‘heures universelles’ complication. Cottier would supply world time wristwatches to some of the biggest manufactures, including Patek Philippe, Rolex and Vacheron Constantin.

HISTORY AT A GLANCE

A world time watch can tell you a lot about the geopolitics of the time in which it was made, since the choice of cities around the dial has often changed with the political and cultural ebb and flow. The most recent change came at Baselworld 2016, when Patek Philippe unveiled its new ref. 5230 with a brand-new World Timer to reflect a number of shifts, including the fact that Dubai has replaced Riyadh as the internationally-recognised representative city of its time zone.

RARE AND EXTRAORDINARY

The original Patek Philippe Heures Universelle series was not an immediate hit and very few were made. Ironically, this means that the timepieces have now acquired something of a cult status and, when they come up at auction, they tend to go for large sums of money.

WANDERLUST ON THE WRIST

While not the only ones to make world time watches, Patek Philippe is known for its extraordinarily beautiful cloisonné enamel maps and dials that feature mythical creatures and symbols.

DATE CREATED:

1931

FIRST DEVELOPED BY:

Louis Cottier

WHAT IT DOES:

Displays the time in the world’s 24 different time zones.

TIP

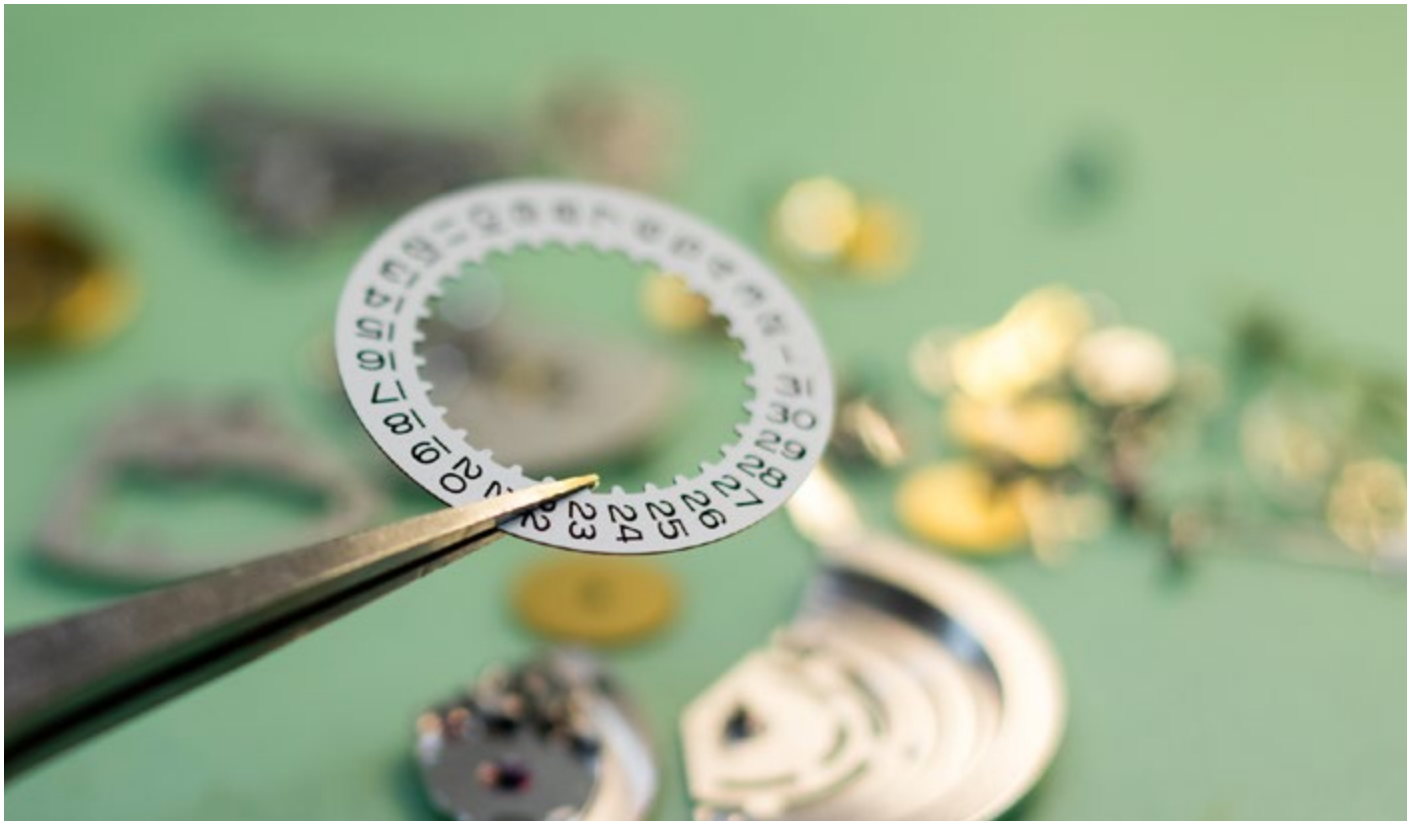
“For the watch collector looking for the ultimate world time, try the Patek Philippe ref. 5531R. An absolutely stunning watch with a minute repeater to boot.”

—DAVID HAGON,
General Manager

“Patek Philippe’s world time wristwatch has become synonymous with its exquisite cloisonné work and I would expect the new 5131/1 to be an instant hit for collectors. This is the first time that the cloisonné enamel dial shows the perspective from the North Pole.”

—DAVID DUGGAN





CARING FOR YOUR TIMEPIECE

Tips from Onsite Technician **IAN FORSTER**

1. KEEP IT UNDER WRAPS

When you're not wearing your watch, wrap it in some foam to protect it. Bathroom tiles are the biggest culprit for broken watches. The sapphire glass face doesn't scratch easily, but it is brittle. If you smash it, chances are you will need a full service to remove all the tiny pieces of glass from the mechanism.

2. KEEP IT CLEAN

So long as your timepiece is waterproof, take a toothbrush and a bit of Fairy washing-up liquid to clean the bracelet. Use the toothbrush again to rinse off the suds. If it's a Rolex, check you have screwed down the crowns first. Then, let it dry naturally.

3. KEEP IT DRY

We always recommend you check your watch's water resistance every 12 months. Modern gaskets are great, but they do wear out over time – the last place you want to find that out is when you jump in the pool. We use a vacuum testing machine to simulate the impact of water on your timepiece and test its resistance.



PRACTICAL COMPLICATIONS

Chronograph

WORD PLAY

The word ‘chronograph’ comes from the Greek words *chronos* and *graphin* and translates as ‘that which writes time’.

HISTORY IN THE MAKING

Watchmaker to the French King, Nicolas Mathieu Rieussec first tested his chronograph at the Champs de Mars horse race in Paris. His brother, Nicolas Joseph, was deeply involved in the Parisian racing world, giving Rieussec the perfect opportunity to see if he could consistently measure the time it took horses to travel the race distance.

BREAKING THE BANK

In October 2017, Paul Newman’s Rolex Daytona sold for a record-breaking \$17.75 million, making it the most expensive wristwatch ever sold at auction.

TIMED TO PERFECTION

In 1970, astronaut Jack Swigert’s Omega Speedmaster – NASA’s timepiece of choice – timed a 14-second manual burn that corrected the fated Apollo 13 spacecraft’s course back onto a successful re-entry path with Earth’s atmosphere.

DATE CREATED:

1821

FIRST DEVELOPED BY:

Nicolas Mathieu Rieussec

WHAT IT DOES:

Allows the wearer to measure periods of time, without changing the actual time on the watch.



ROLEX COSMOGRAPH DAYTONA 116520

“Tudor’s chronographs are some of my favourite timepieces. Our showroom is in the highly privileged position of being able to carry the most exciting new Tudor models alongside pieces that I have seen grow in rarity and value during my years in this business.

“Back in the early-1990s, I remember selling Tudor chronographs with Monte Carlo dials for around the £500 mark. Today, we sell them at a starting price of £12,000. Yesterday’s innovations have become today’s vintage icons – and seeing them sitting alongside their modern counterparts is a real illustration of how Tudor has developed a definitive, market-leading brand over the years.”

—DAVID DUGGAN



A FAVOURITE WATCH

One of my favourites has got to be the Rolex Submariner. Watching the early Sean Connery James Bond films in the 1960s, *from Russia with Love*, *Dr No*, *Goldfinger*, *Thunderball*, etc, I was intrigued by this big, black-dialled diver’s watch called Rolex. Rolls-Royce also fascinated me as a boy – amazing how the two brands sound so similar.

Sixty years later, the steel Rolex Submariner is even more popular, with some of the rare James Bond Submariners now selling for well over £100,000 – not bad for a timepiece that sold at a retail price of £60 in the 1960s. I think it’s typical of Rolex that today’s model is still instantly identifiable with its 1950s and 1960s cousins. Over the years, Rolex has made subtle, gradual modifications and always so beautifully understated.

For that reason, the Submariner has long been a favourite as any budding collector’s first timepiece. If you’re thinking about buying one, here are some things to consider:

- i. Think about practicality. For example, the magnifying cyclops lens on a Submariner is very clear and legible. If you prefer without, maybe a pre-2017 Sea-Dweller would be better for you.
- ii. Choose something that you like the look of and will be happy to wear for a long time.
- iii. Buy from a reputable dealer. Ask other dealers about that dealer. And ask at auction houses, too. Ask yourself: ‘If anything goes wrong with my Submariner, will this person deal with me fairly and properly?’
- iv. Buy in the best condition you can afford.
- v. Try to buy the watch with paperwork, even a Rolex servicing receipt or, better yet, the original guarantee (although this is extremely rare the older the watch gets).
- vi. Make sure the watch you buy is fully receipted with its case number clearly marked on the receipt.

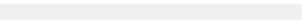


ROLEX SUBMARINER 16610

DATE CREATED:
1947

FIRST DEVELOPED BY:
Vulcain

WHAT IT DOES:
An independent alarm hand allows the wearer to set an alarm at any point in a 12-hour period.



“An alarm on a wristwatch might seem a little old-fashioned these days with our phones beeping at us all the time, but there is something very charming about the complication. For me, the old faithful is the Tudor Advisor with the Havana dial. It has a very pretty, modern alarm and a lovely symmetry in the way the buttons and dials are laid out.

“Still very handy if you need reminding of an important appointment, giving you plenty of time to prepare.”

—DAVID DUGGAN



TUDOR HERITAGE ADVISOR

Alarm

OLD AS TIME

Alarms aren’t a new concept. The ancient Greek philosopher Plato is thought to have used a water clock with an alarm to help him rise for his early-morning lectures. Some 17th Century pocket watches were also known to contain an alarm function. But, it wasn’t until 1908 that a company called Eterna took out a patent for an alarm wristwatch and it would be another 40 years before the alarm was installed in the now-legendary Vulcain Cricket.

PRESIDENTIAL FANS

When President Truman left office in 1952, the White House News Photographers Association presented him with a Vulcain Cricket. His successors, Presidents Eisenhower and Johnson, also wore Crickets, although Johnson is said to be the only one of the three to have bought his own. He was such a fan that he is also thought to have bought 200 while on a trip to Geneva to give to members of staff and esteemed guests.

MEMORY MAKER

It was Jaeger-LeCoultre’s Memovox that turned this complication into an art form. Introduced in 1950, its name is a portmanteau of the Latin for remembering – *memor* – and voice – *vox*, to literally mean ‘the voice of remembering’. In 1959, the Memovox Deep Sea became Jaeger-LeCoultre’s first diver’s watch and the world’s first diver’s watch with a built-in alarm that could be heard underwater so that a diver knew when it was time to start making their way back to the surface.

PRESIDENT JOHNSON AGAIN...

Jaeger-LeCoultre presented President Johnson – the passionate Cricket fan – with a custom Memovox engraved with the US presidential seal in the hope of turning his head. If legend is correct, it didn’t work. Johnson is said to have given it to an immigrant he was sponsoring for citizenship.

Power Reserve Indicator

SAILING THE SEVEN SEAS

Power reserve indicators were first introduced into maritime chronometers. The ability to track latitude and longitude relied on the accuracy of the clock, so a power reserve was incredibly useful in reminding the crew when it was time to wind it.

COMPLICATED HISTORY

The very first wristwatch to feature a power reserve indicator was made by Breguet in 1933, but it was a prototype and it would be another two decades before Jaeger-LeCoultre introduced the LeCoultre Futurematic. It was the first timepiece without a crown for winding the mainspring. Instead, it had a sliding mechanism on the back to change the time. It was also designed to keep at least six hours of power at all times.

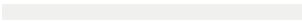


PATEK PHILIPPE 5036G ANNUAL CALENDAR WITH POWER RESERVE INDICATOR

DATE CREATED:
1933

FIRST DEVELOPED BY:
Breguet

WHAT IT DOES:
Allows the wearer to see how much power is left in a watch before it needs winding.



“This is quite an ornamental complication – one for real collectors. Tudor has started making timepieces that have a 70-hour power reserve, meaning you can take it off on a Friday night and put it away in a drawer until Monday morning and it’s still got about 12 hours of power to go. It’s the nearest thing to a car fuel gauge on a wristwatch.”

—DAVID DUGGAN

MASTER COMPLICATIONS



Minute Repeater

HOLDING COURT

Minute repeaters were first developed in the 1600s, although, back then, they hardly made a sound – it was more of a vibration that allowed the wearer to know the time if they were holding it in their hand. This served as a discreet way for those at court or in the presence of someone important to check the time. It also allowed people to tell the time during the hours of darkness – long before luminous displays were invented.

THE MINUTE MASTER

Patek Philippe made the first pocket watch minute repeater in 1839, although it would take the manufacture almost another 100 years to incorporate the intricate technology into a wristwatch. More than 100 tiny components go into a Patek Philippe minute repeating mechanism and it can take a watchmaker up to two years to complete.

MUSIC TO YOUR EARS

Sound is incredibly important in a Patek Philippe minute repeater and, these days, you can choose between the cathedral or the normal gong – the former giving a more elongated sound. No Patek Philippe minute repeater leaves the factory until the head of the company – Thierry Stern – has personally listened to and approved the sound made. But, what’s even more remarkable is that no two sound the same. Each is tuned slightly differently, giving what Patek Philippe describes as a ‘fingerprint’.

TIP

Never adjust the crown of your minute repeater when it is striking and ideally wait for 20 seconds after the last strike.

—IAN FORSTER, Onsite Technician

DATE CREATED:
1680

FIRST DEVELOPED BY:
Daniel Quare

WHAT IT DOES:
Chimes the time on demand using separate tones for hours, quarter-hours and minutes.



“Since it was first released 20 years ago, the Patek Philippe ref. 5016 has been my all-time favourite watch. It’s got every relevant complication on it; it’s a minute repeater, it’s a tourbillon, and it’s a perpetual calendar with a retro-grade date. It’s got every complication that you could possibly want, but it is stunningly beautiful. A steel version sold in 2015 for a cool CHF7.3 million. If I won the lottery tomorrow, that’s the watch I would buy straight away.”

—DAVID HAGON, General Manager



“About six weeks after the credit crunch disaster, triggered by the collapse of Lehman Brothers in September 2008, I found myself in a very precarious situation. I had recently bought five Patek minute repeaters during a booming summer. I remember them well: a 5016P, 5016J, 5013J, 3974J and a 5074J. With financial pessimism at an all-time high, nobody was the least bit interested in high-value collectable watches. A lot of my dealing money was thus tied up in those five watches. I needed an economic miracle to get out of the situation.

“In early-November 2008, the miracle happened. I remember my late partner, Denise, saying, ‘You need Mr. Ting Ting Ting to come into the shop.’ The man in question was an eccentric, brave dealer in Patek minute repeaters whom I hadn’t seen in Bond Street for years.

“Incredibly, he appeared at the shop, completely out of the blue. Denise immediately sent him downstairs to my office where he greeted me with the question, ‘Have you got any Patek ting ting tingers?’ I could have kissed him. When I showed him the five I had, he said, ‘Lock your office door so we can’t be disturbed, no phone calls, no distractions – let’s deal.’

“Four hours later, he was the proud owner of five Patek minute repeaters. A few days after that, he took a photo of some of his prized watches, including a couple from our epic deal, lying on the front page of the *Evening Standard* with the headline ‘First Black President’ – Obama’s inauguration – an iconic moment.”

Tourbillon

A REVOLUTIONARY IDEA

Breguet is thought to have developed his first tourbillon in 1795, although didn’t receive his first patent until 1801. The renowned watchmaker realised that every time a pocket watch moved, gravity caused tiny variations in timing. To counteract this, he installed the entire escapement and balance wheel – the most sensitive parts – inside a mobile device that carried out a complete rotation once a minute.

IN A WHIRL

The name comes from the French for whirlwind, since the mechanism rotates on its own axis.

A RARE BREED

It’s hard to overstate just how complex Breguet’s invention was. As a consequence, very few were made over the next 200 years and vintage tourbillon wristwatches are few and far between. There remains a certain prestige to crafting a tourbillon and, over the years, manufacturers like Patek Philippe have submitted a handful to observatory chronometer time trials.

SPACE AGE

Unlike regular tourbillons, which are secured by a bridge, a flying tourbillon is supported on just one side, giving the impression that it is suspended in space as it revolves.

DATE CREATED:

c1795

FIRST DEVELOPED BY:

Abraham-Louis Breguet

WHAT IT DOES:

Counters the effects of gravity on a watch’s accuracy by mounting the escapement and balance wheel inside a rotating cage.

“The Patek Philippe ref. 5207 Grand Complication is my all-time favourite watch. It’s a minute repeater, moonphase and tourbillon. I love it because it’s so discreet – the tourbillon is at the back. I’m also a big fan of box housing for the date and month, rather than dials.”

—DAVID DUGGAN



PATEK PHILIPPE 5101P 10 DAY TOURBILLON

DATE CREATED:

1925

FIRST DEVELOPED BY:

Patek Philippe

WHAT IT DOES:

Displays the current sunlit phase of the moon as observed from Earth, at any given point during a lunar month.

“The moonphase is the most impractical, yet romantic complication you can own. Take the Patek Philippe Celestial Wristwatch ref. 5102G, for example.

Who needs to know the position of the solar system from Geneva airport? But, that’s not the point.

“I’ve always really liked the traditional Rolex ref. 8171, the ‘Padellone’ with triple date display and moonphase, actually, the last moon display watch Rolex made until 2017. Back in the early-1990s, we were selling these for £6,000 to £8,000. They sell for around £200,000 now.

“At 38mm, they were considered a bit too big to be comfortable for a lot of our clients. How times change!”

—DAVID DUGGAN

Moonphase

AS OLD AS TIME...

Like so many other complications, the concept of the moonphase dates back well beyond its introduction into a wristwatch. Back in 205BC, the ancient Greeks developed the Antikythera mechanism, an astronomical calculator comprising 30 bronze gears inside a wooden case. It was able to display the position of the moon, dates, and even the timing for the ancient Olympic Games. It would be another 11 centuries before the Chinese scientist Su Song invented the first astronomical clock.

LUNAR LENGTH

It takes the moon 29 days, 12 hours, 44 minutes and 2.8 seconds to complete a full lunar cycle.

FOUR OF A KIND

The Patek Philippe ref. 1518 stainless steel perpetual chronograph is one of the most well-known moonphases. It is both gorgeous and rare – indeed, only four are known to have been made. In 2016, one sold at auction for \$11,136,642, making it the most expensive watch ever sold at the time.

GEARED FOR PERFECTION

The original moonphase display system is based on a 59-tooth driving wheel. This system requires a manual correction roughly once every two-and-a-half years. Since then, watchmakers have developed a 135-toothed gear that is accurate to within one day every 122 years.

RACE AGAINST TIME

The more decimal places a watchmaker can include in their calculations, the more accurate the moonphase timepiece. Both A Lange & Sohne and Patek Philippe have developed watches that are accurate for 1,000 years, while Ochs und Junior has created a moonphase complication that’s accurate to almost 3,500 years. All pale in comparison to that of Swiss watchmaker Andreas Strehler, though. Strehler has developed a moonphase complication that is accurate for more than two million years.

VINTAGE URBAN JÜRGENSEN TRIPLE CALENDAR WITH MOONPHASE





GET IN TOUCH

David Duggan Watches is an independent, unbiased luxury watch broker, specialising in preowned timepieces of the highest quality. Our expert team offers more than 150 years’ combined experience in the complex field of horology.

David Duggan Watches is a member of the British Horological Institute and an associate member of Sotheby’s auction house, both awarded in recognition of our outstanding levels of knowledge and service. Our top floor houses an accredited Rolex repairs and servicing centre.

If you are interested in buying or selling a luxury watch, you will always enjoy a warm welcome in our Burlington Arcade showroom.

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