

PANERAI  

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SPECIAL  
EDITIONS

ISTRUZIONI/INSTRUCTIONS



Rodolfo Claudius: assault vessel in action (By kind permission of the Italian Navy)

## HISTORY

Since 1860, Guido Panerai & Figlio in Florence has been producing precision instruments with a high level of technical content, becoming a supplier to the Royal Italian Navy. These instruments have indissolubly associated the name Panerai with marine exploration, time measurement and the development of a particular standard of quality and safety, a fundamental requirement for supplying the armed forces.

Officine Panerai began to produce watches in March 1938 with the Radiomir, a model which played a part in the exploits of the commandos of the Italian Navy who wore it on their wrists. The Panerai Luminor has been recognised as a historically important watch by virtue of the robustness and originality of its design; the small number of examples produced, together with the first Radiomir watches, are some of the rarities most sought-after by collectors in the field.

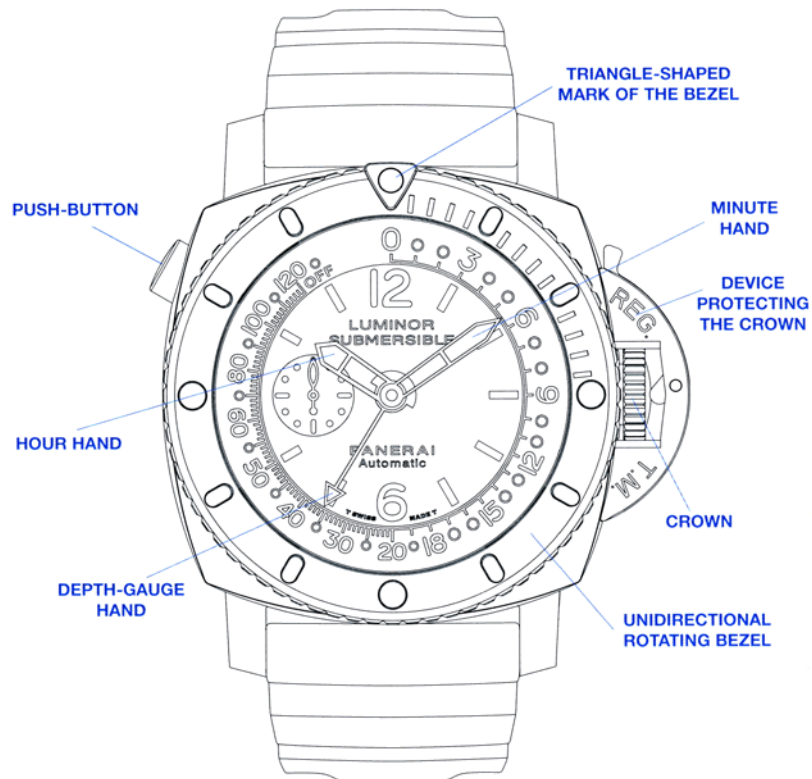
Since 1993, Officine Panerai has offered updated Luminor and Radiomir models on the international market, thus becoming one of the undisputed leaders in the haute horlogerie sports sector.

Making good use of the resources of the Panerai manufacture, highly reliable, technologically avant-garde watches are being created; these are watches made to the criteria of craftsmanship inherited from the traditions of the past, tested to resist extremely strong adverse influences.

Panerai watches are distributed through a highly selective international network of watch specialists as well as through the Panerai boutiques. The addresses are available on our website [www.panerai.com](http://www.panerai.com).



Please read the whole of the instruction manual before using the depth gauge



## PANERAI LUMINOR 1950 PANGAEA SUBMERSIBLE DEPTH GAUGE

The Panerai Luminor 1950 Pangaea Submersible Depth Gauge Watch is a diver's watch created by Officine Panerai in a special edition of 500 units to accompany Pangaea expedition. Mike Horn's new mission will last four years and will take him to all the continents including Antarctica, with the intention of sharing awareness of the current state of our planet so as to make public opinion aware of this important problem.

The Panerai Luminor 1950 Pangaea Submersible Depth Gauge, tested in the course of the exploration, is equipped with an automatic mechanical movement and fitted with an electronic depth gauge.

It is the modern development of the depth gauges manufactured in the mid-1950s by Officine Panerai.

It has been created in accordance with Panerai tradition, based on reliability and quality. As a result of its technical characteristics, which conform to international diving standards, it is an instrument created for serious divers.

This instrument has an autonomous electronic module which is completely independent of the automatic movement. This module is located at the back of the case and consists of a pressure transducer, a microprocessor, associated electronic components and a motor to move the hand which indicates the depth. A lithium battery gives the module an independent operational duration of 500 hours of diving.

The pressure transducer is a chip mounted on a small printed circuit and embedded in a membrane of silicone which is in contact with the water. In this way the pressure is conveyed to the transducer through this membrane.

The microprocessor measures this pressure every 1.25 seconds and moves the position of the depth gauge's indicator hand on the dial according to the value obtained.

The water comes into contact with the transducer through the openings in the back of the case. This arrangement requires two systems of water-resistance, achieved on the one hand by the usual gasket for the back of the case, and on the other by a second gasket which prevents the water moving from the transducer area to the movement.

## THE CASE

The case is 47 mm in diameter and it is entirely made of titanium and steel. More than 80 separate operations are required to turn the original blank stamping into the finished product. A series of quality control checks, carried out using very sophisticated instruments, result in exceptional strength and accuracy.

The anti-reflective sapphire crystal is made of corundum, the hardest material in existence after diamond, free of any impurities, completely transparent and virtually unscratchable. Slightly cambered, it ensures perfect legibility of the dial and exceptional resistance to underwater pressure.

The screw back is of titanium, personalised with the Pangaea logo and Mike Horn's signature. Also engraved on it are the identification number of the watch, the individual progressive identification number, the number of the limited edition and the maximum depth of use.

The unidirectional rotating bezel has a scale graduated to measure the time of the dive, with a click at each minute. It has been made in compliance with the NIHS (Normes de l'Industrie Horlogère Suisse) standards of the Swiss watch industry relating to underwater watches.

The water resistance of your watch is guaranteed to a pressure of 12 bar which correspond to the hydrostatic pressure exerted by a column of water on 1 square centimetre at a depth of 100 metres under normal conditions. In these circumstances your watch is therefore water-resistant to a depth of 120 metres.

## THE DEVICE PROTECTING THE WINDING CROWN

The device protecting the winding crown (Trademark) ensures water-resistance in an extremely effective and reliable way, while at the same time it protects the crown from being moved accidentally. It causes a pre-set axial force to be exerted on the gasket surrounding the stem, thus locking the crown in its resting position by a moving lever mounted in half-moon-shaped block fixed to the case.

This device enables the watch to be worn during operations with a high risk of shock and at great depths.

## TIMEKEEPING SECTION

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### THE MOVEMENT

The watch section is fitted with a Panerai calibre OP XV, an exclusive Swiss automatic movement of 13 $\frac{1}{4}$  lignes. Its characteristics are as follows: operating duration more than 42 hours without winding, 28,800 vibrations/hour, 21 jewels, small seconds hand at 9 o'clock, hack seconds hand stopping when the winding crown is pulled out to set the time.

The bridges and oscillating weight are perfectly finished with the characteristic Panerai personalisation and Côtes de Genève decoration.

The use of extremely sophisticated materials, including antimagnetic alloys for all the main timekeeping elements, together with highly sophisticated techniques of construction, ensure a movement of unusually high reliability. The quality checks and adjustment carried out in five positions with static and dynamic testing of the balance assembly, guarantee that the watch will be extremely accurate over a long period.

This movement is accompanied by the Chronometer Certificate issued by the Contrôle Officiel Suisse des Chronomètres (C.O.S.C.).

### INSTRUCTIONS FOR USE

The Panerai Luminor 1950 Pangaea Submersible Depth Gauge has a mechanical movement with automatic winding. If the watch is not used for a long period, it is recommended that it should be wound with a few turns of the winding crown in a clockwise direction. Before turning the crown, open the lever of the device protecting the winding crown.

#### Setting the time:

- 1** - Open the lever of the device protecting the winding crown.
- 2** - Pull out the winding crown until it clicks, then set the desired time.
- 3** - Push the crown back and close the lever of the device protecting the winding crown.



## DEPTH GAUGE SECTION



### Elementary rules for diving while ensuring safety

Diving will be a pleasure so long as the precautionary rules are correctly observed. However, some risks are inherent in this activity, such as accidents or unexpected psychological reactions.

All diving must be preceded by taking part in a course at an accredited diving school and obtaining a recognised diving certificate.

Also, before diving, remember all the essential instructions for diving in accordance with the internationally recognised standards and procedures, and do not forget to carry out all the safety checks.

Among other things we remind you that you should:

- Plan each dive.
- Never go beyond your personal limits.
- Never dive alone. This watch is no substitute for a team mate.
- Carry out all the necessary decompression stages, respect the speed of ascent (maximum 10m/min) and always carry out a safety stop of 3 minutes at a depth between 5 and 3 m.
- Avoid yo-yo diving.
- Avoid exertion while diving and for half-an-hour following your return to the surface.
- Spend a minimum of two hours on the surface between dives.
- Always carry out the deepest dive of a day first.
- Always start each dive by descending first to the maximum depth planned and then ascend progressively in the course of the dive.

- In the event of repeated daily dives, take at least one day's rest per week. If the dives have required decompression stages, it is recommended that you should have a rest day every three days.
- Avoid dives outside the safety curve and limit diving to a depth of 40 metres, unless you have undergone a specific (certified) course with regular training.
- Before flying in an aircraft, always wait for as long as possible after a dive (at least 12 hours and preferably 24 hours), and follow the recommendations of the D.A.N. (Diver's Alert Network).

Not following these recommendations increases the risk of accident.



### To dive with this watch. Warnings.

Only use this watch after reading and perfectly understood its operation and the precautions mentioned.

- The watch must be used only after receiving all the necessary instructions and taking all the appropriate precautions for a dive in complete safety.
- Ensure that you perfectly understand the operation of the read-outs and the limits of use of the device.  
Any confusion resulting from a poor understanding of this manual and/or incorrect use of the device could cause the diver to commit errors potentially putting him or her in a situation of serious danger to his or her health.
- Always dive with two depth gauges, or more, one of which is a professional dive computer.
- The replacement of the battery must be carried out only by an authorised Panerai after-sales service.

- Do not use the depth gauge diving when the temperature of the water is outside the range of guaranteed temperatures (from 0°C to 40°C).
- Do not use the depth gauge in an atmosphere enriched with helium. This could cause malfunction or damage.
- The watch must never serve several users.
- Don't forget that every diver is responsible for his or her own safety and that the Panerai Luminor 1950 Pangaea Submersible Depth Gauge is not a replacement for diving training given by an authorised body.
- In the highly unlikely event of a failure in one of the functions of your watch depth gauge, contact your group of divers. It is not uncommon to lose contact with one or more team mates in the course of diving in murky waters. In that case, use your 2nd depth gauge or other instrument instead, or start to ascend in accordance with the safety instructions in force.

#### SPECIFICATION FOR USE

Range of depth measurement:	0m to 120m
Maximum length of dive:	4h
Range of storage temperature:	0°C to 50°C
Range of operating temperature in which the measurement is guaranteed to be within tolerance:	0°C to 40°C
Tolerance of measurements:	0.2m
Sensitivity of measurements:	0.2m min.
Frequency of measurement:	1.25s
Duration	500h of diving

## METHOD OF USE

The depth gauge functions of the Panerai Luminor 1950 Pangaea Submersible Depth Gauge are as follows:

- indication of the maximum depth of the last dive
- indication of the end of the battery's life
- indication of the depth while diving

The Depth Gauge section of the Panerai Luminor 1950 Pangaea Submersible Depth Gauge is certified by the Swiss Federal Office of Metrology METAS.

### FUNCTION FOR MEMORISING THE MAXIMUM DEPTH

This watch automatically records the maximum depth of the dive.

#### How to display the maximum depth

- Push briefly on the push-button: the pressure must last just until the hand begins to move.
- The maximum depth last attained is displayed for 6 seconds, then the depth needle returns to its rest position (55 min). This operation takes 12 to 15 seconds.

### TESTING THE BATTERY BEFORE DIVING

The Panerai Luminor 1950 Pangaea Submersible Depth Gauge has an autonomous electronic module completely independent of the automatic movement. A lithium battery guarantees the module a minimum life of 500 hours. By pressing on the push-button of the watch, the battery's level of discharge can be checked. There are two situations to consider:

- **the battery is good**  
the depth of the last dive is displayed for six seconds, then the hand returns to its rest position (55 min).
- **the battery is at the end of its life**  
the hand advances at half-speed from its rest position (55 min) to zero (12 o'clock) then returns at half-speed to its rest position (55 min). All the operations of the depth gauge are then blocked.



**Any intervention with this product, including the replacement of the battery, must be carried out by an authorised Panerai service centre. For repairs or checking, please contact your retailer or make direct contact with the Panerai service centre listed at the end of this document.**

## START OF THE DIVE

To start the operation of the depth gauge of the watch:

- 1 - Press on the push button.
- 2 - In the first instance, the hand indicating the depth will display the maximum depth attained in the last dive and it will hold this value for 6 seconds.
- 3 - If the push-button is not pressed at the end of the 6 seconds displaying the maximum depth, the hand will return to the rest position (55 min).
- 4 - If the push-button is pressed during the 6 seconds in which the memorised maximum depth is being displayed (before the moment when the hand returns), the depth gauge is prepared for the start of a dive:
  - the hand returns to the zero position (12 o'clock),
  - the depth gauge carries out an initial pressure measurement which then serves as the reference pressure on the surface (for example, this pressure will be less for a dive in a lake at high altitude than it will be at sea level).
- 5 - If the depth measured by the depth gauge does not exceed 1 metre for 5 minutes, it will be assumed that no dive has taken place. In this event, the recording of the maximum value of the last dive remains unchanged and the hand returns to its rest position (55 minutes).
- 6 - Otherwise, it is assumed that the dive has begun.

## DURING THE DIVE

Above all, it is recommended that, in the first metres of the dive, the diver should check that the watch has not returned to rest mode (as happens if more than 5 minutes elapse between starting the depth gauge and the start of the dive).

In this case, the diver must return to the surface and re-start the depth gauge.

- While diving, the watch displays the depth measured.
- If the push-button is pressed, the watch displays the maximum depth achieved for 6 seconds.
- It then continues to display the current depth.
- If the depth measured is less than 1 metre for 5 minutes, it is assumed that the dive has ended.
- The maximum depth attained is then memorised and the hand is returned to its rest position (55 minutes).

A dive lasts an average of 45 minutes. If the dive lasts longer than 4 hours:

- the maximum depth is memorised,
- the hand is returned to its rest position (55 minutes).

## AFTER DIVING

- Wash the watch in fresh water to remove the salt, mud and sand. Clean it completely with a dry cloth.
- Do not use a sharp instrument to remove any dust or debris which may clog the openings in the back of the case. Instead direct a strong jet of water at this material to remove it; if this solution is not adequate, contact an authorised Panerai service centre.
- For maintenance and repairs of a general nature, please refer to the 'Maintenance advice' section of these instructions.

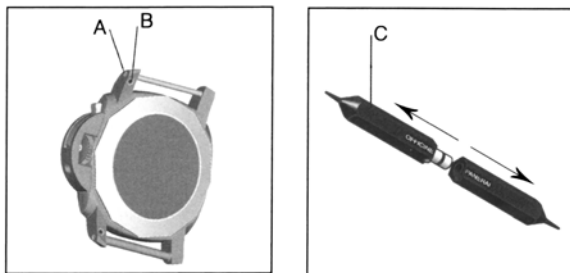
## OTHER FUNCTIONS: MEASUREMENT OF ELAPSED TIME

Use the unidirectional rotating bezel to measure elapsed time. Before diving, turn the recording bezel to align the triangle-shaped mark with the minute hand. The elapsed time is then indicated by the position of the minute hand on the recording bezel.



## REPLACING THE STRAP

The Panerai Luminor 1950 Pangaea Submersible Depth Gauge watch use a special device for changing the strap. A pin **(A)**, visible at the side of each strap attachment, can be released by simultaneously pushing on the push-piece **(B)**, located on the underside of the strap attachment and on the pin itself. A special tool **(C)**, supplied in the box, enables this operation to be carried out with simplicity and precision. Before making the replacement, detach the two parts of the tool. To complete the replacement, after introducing the pin, push on the push-piece **(B)**.



## REPLACING THE BUCKLE

The screwdriver supplied with the Panerai Luminor 1950 Pangaea Submersible Depth Gauge watch enables the buckle to be replaced easily.

## MAINTENANCE ADVICE

### PRESSURE TRANSDUCER

Never remove the back of the case which protects the pressure transducer. Make sure that foreign matter such as sand, dust or other substance does not reach the transducer. If such bodies have penetrated the openings in the back of the case, wash it under running water. Do not use alcohol, petrol, solvent or other such substances.

### WATER-RESISTANCE

It is recommended that the water-resistance of the watch should be checked by an authorised Panerai service centre at least every two years, in the context of a regular service.

Checking the water-resistance requires the replacement of the joints, so as to ensure maximum water-resistance and safety.

### CLEANING THE EXTERIOR OF THE WATCH

To maintain the exterior of the watch in perfect condition, we recommend carefully rinsing it your Panerai watch under running water. After this, dry it thoroughly with a dry cloth.

## THE STRAP

After being in the sea, rinse the strap under running water and let it dry. To replace the strap, it is recommended that the watch should be taken to an authorised retailer or an authorised Panerai service centre. You will then avoid any annoyance arising from incorrect replacement.

Only authorised retailers and authorised Panerai service centres can guarantee the use of original Panerai straps, designed to match the size of the case and made in accordance with the quality standards of the brand.

## SHOCKS AND OTHER EXTERNAL PHENOMENA

Protect the watch from shocks, strong heat, direct exposure to the sun and chemical products. Your watch is not designed to resist violent shocks or the other conditions mentioned. These can damage the gaskets and affect the operation of the depth gauge.

If traces of humidity should appear, immediately take your watch to an authorised Panerai after-sales service centre.

Do not expose your watch to magnetic fields (such as electromagnetic apparatus, aircraft, magnets, etc...) which might affect its operation. In the event of any doubt about the operation of the depth gauge function, take the watch to be checked at an authorised Panerai after-sales service centre.

## RECOMMENDATIONS

It is strongly recommended that the watch should be serviced every 2 years at an authorised Panerai after-sales service centre.

The presentation case of your Panerai Luminor 1950 Pangaea Submersible Depth Gauge contains:

- Instruction booklet
- Guarantee booklet
- Guarantee certificate
- Numbered edition certificate
- C.O.S.C. certificate
- METAS certificate
- Second interchangeable strap
- Tool to change the strap
- Steel screwdriver to change the buckle

