BREITLING

1884

INFORMATION

CONTENTS

1. INTRODUCTION

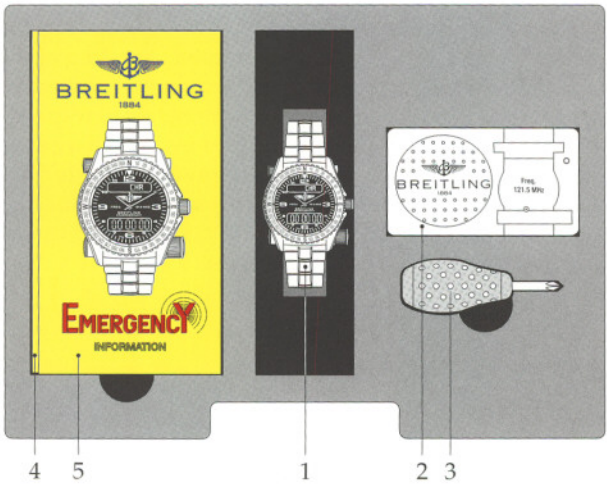
The BREITLING EMERGENCY is a back-up survival instrument for pilots. It consists of a multifunction watch equipped with a miniature transmitter to locate people in distress. The miniature radio transmitter broadcasts a signal on the international aviation distress frequency of 121.5MHz, used by all rescue services. The EMERGENCY complements the 121.5MHz distress beacons in aircraft. Designed to be worn on the wrist, it is not intended as a primary distress beacon.

Warning: The transmitter may only be activated in the case of distress in aviation. Unwarranted operation of the transmitter is subject to a fine and may entail additional costs for search and rescue activities launched in response to a signal on the distress frequency. The owner is exclusively liable for any consequences (including prosecution) of misuse by any party. Neither the manufacturer of the transmitter nor its distributor can be held responsible for any improper use.

2. CONTENTS OF THE EMERGENCY CASE

The BREITLING EMERGENCY watch is delivered in a case containing the following:

1. EMERGENCY transmitter-watch
2. Test receiver with separate batteries
3. Cross-head screw-driver
4. Presentation video (VHS)
5. Instruction manual
   Miscellaneous documents.



3. DESCRIPTION

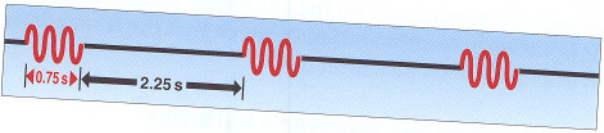
3.1 The 121.5MHz frequency

The 121.5MHz radio frequency is reserved internationally for aeronautical distress transmissions.
All aircraft operating under international civil-aviation rules carry a radio beacon set to 121.5MHz and 243 or 406.025 MHz. In the event of a crash, this beacon automatically broadcasts signals to alert and guide rescue services. The EMERGENCY personal transmitter-watch complements the aircraft's distress beacon and increases the chance of being found.

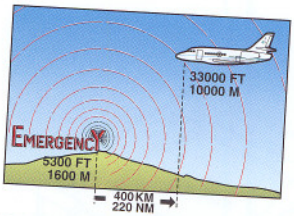
3.2 Transmission and range

The transmitter-watch broadcasts an amplitude-modulated signal on 121.5MHz for 0.75 seconds every 2.25 seconds. In addition, the EMERGENCY identifies its signal by transmitting the Morse letter B (–···) every 60 seconds.

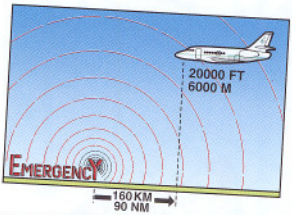
The transmitter will broadcast for 24 to 48 hours according to the state of the battery and the temperature. Its power is rated at a peak of 30mW.



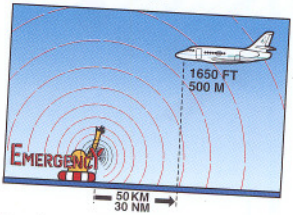
The range of the signal transmitted by the BREITLING EMERGENCY varies according to the terrain, the location of the transmitter and the height of the search aircraft above the transmitter.



In ideal conditions, transmitting from a mountain peak, for example, the distress signal can be picked up 400km (220nm) away by an aircraft flying at 10,000m (33,000ft).



From flat land, the range depends on the height of the aircraft. The signal carries 36km (20nm) to an aircraft at 900m (3,000ft) and 160km (90nm) to an aircraft at 6,000m (20,000ft).



The range from a boat at sea is the same as that from a flat area (see above). Signals from a survivor floating in a lifebelt in calm sea can be received an estimated 50km (30nm) away by an aircraft at 500m (1,650ft).

In deep valleys or broken terrain, the range of the transmitter is largely determined by its location.

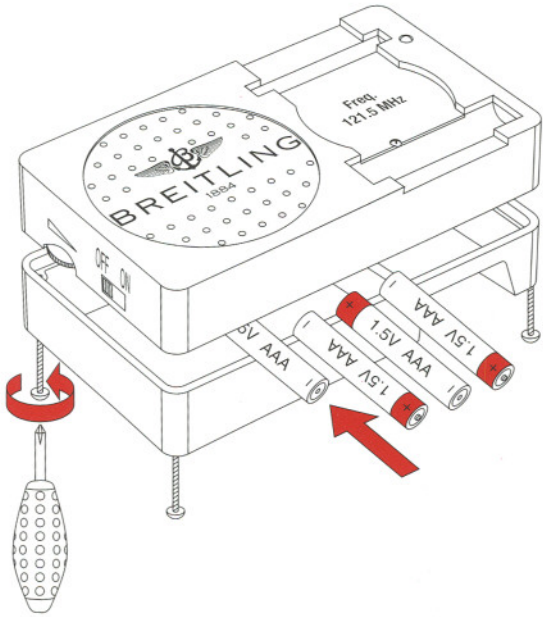
The supplementary antenna can greatly improve the range of the transmitter with no increase in energy consumption.

4. TESTING THE TRANSMITTER

The BREITLING EMERGENCY watch is delivered with a test receiver to check that the transmitter is operational. Checking does not require the antenna to be extended and causes no interference on the 121.5MHz frequency.
It is strongly recommended to check that the transmitter works before its potential use.

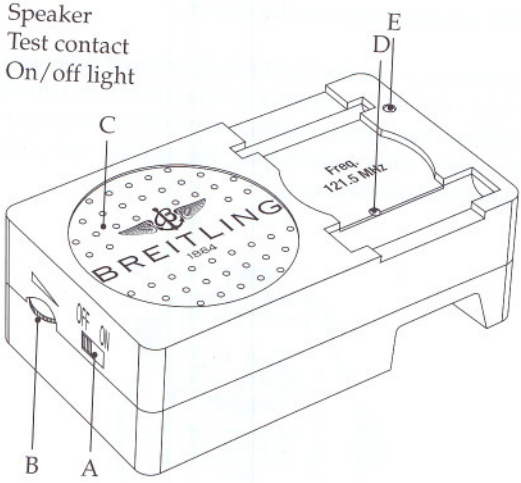
4.1 Inserting the receiver's batteries

Use the cross-head screw-driver to unscrew the four screws in the base of the receiver, insert the four batteries and screw the base back in place. Only use 1.5-volt, AAA (LR03) alkaline batteries, size 44 x10.3mm.

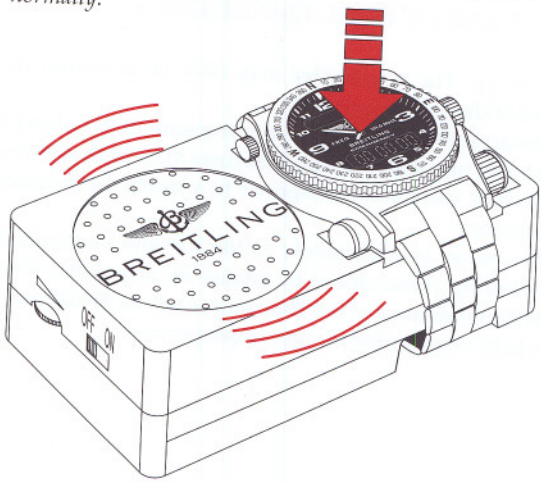


4.2 Using the receiver

A. On/off switch
B. Volume
C. Speaker
D. Test contact
E. On/off light



1. *Switch ON (A).*
2. *Check light (E) is on and a sound is heard.*
3. *Place the EMERGENCY in its holder.*
4. *Press gently on the watch. After a short delay, a sound signal is emitted for 0.75 seconds every 2.25 seconds, indicating that the EMERGENCY's transmitter functions normally.*



If no signal is heard, check the EMERGENCY is placed correctly on its receiver. If the problem persists, it is essential to have the EMERGENCY and its test receiver verified at a BREITLING service center.

The EMERGENCY can also be checked, without extending its antenna, by the aircraft's radio receiver tuned to 121.5MHz. Press gently on the button (F) on the case-back of the watch. After a short time, the receiver will pick up the signal described above.

5. OPERATING THE TRANSMITTER IN CASE OF REAL EMERGENCY

Warning: The transmitter may only be activated in the case of distress in aviation.
Unwarranted operation of the transmitter is subject to a fine and may entail additional costs for search and rescue activities launched in response to a signal on the distress frequency.
The owner is exclusively liable for any consequences (including prosecution) of misuse by any party. Neither the manufacturer of the transmitter nor its distributor can be held responsible for any improper use.

5.1 Activating the transmitter

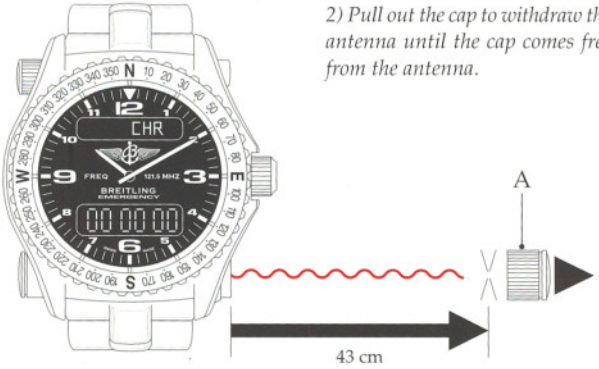
A. Main antenna cap
B. Supplementary antenna cap
C. Crown
D. Upper display
E. Lower display

Important: As a safety measure, and to discourage misuse, the EMERGENCY has been designed for single operation. Once the transmitter has been activated by extending the antenna, the watch must be returned to a BREITLING service center for the transmitter to be made operational again. The watch will be replaced free of charge if the use of the transmitter has been justified. Any malfunctioning or visible damage such as cracks in the glass, crown or antenna caps require immediate attention.

Note: The watch and the transmitter are independent. Any damage to the watch, as a result of an air crash, for example, does not necessarily mean that the transmitter is out of use.

The following actions should be carried out in case of distress only:

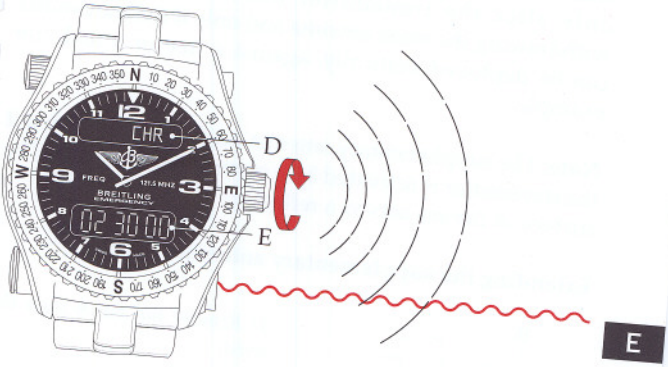
1) Unscrew the main antenna cap (A) counter-clockwise until the security ring breaks to release the cap.



2) Pull out the cap to withdraw the antenna until the cap comes free from the antenna.

Note: The cap is designed to break away from the antenna when the antenna is pulled out to its full length of about 43cm (17in) — the length of a forearm.

*3) To check that the transmitter is working, turn the crown until the indication "**CHR**" (chronograph) appears in the upper display (D) on the dial. Transmitter function is indicated by the intermittent chronograph operation in the lower display (E), which also produces a sound signal approximately every 2 ½ seconds.*



*Confirmation that the transmitter is working can also be obtained without the sound signal by turning the crown until "**AL**" (alarm) appears in the upper display (D). "**AL**"/"**OF**" alternating in the lower display (E) shows the transmitter is sending.*

Recommendation: While flying, set the watch to "**CHR**" (chronograph mode). If the transmitter does have to be used in the dark, the sound signal will automatically confirm that the distress signal is being sent.

5.2 Supplementary antenna

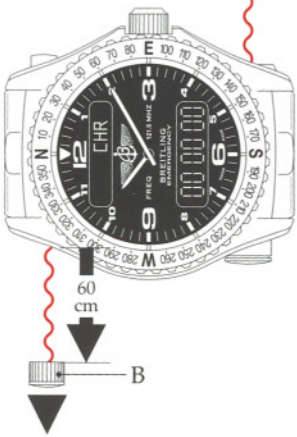
The EMERGENCY is fitted with an extra antenna which considerably increases the range of the transmitter without using any extra power. It should be deployed only after the transmitter has been activated by withdrawing the main antenna and only if the transmitter can be deployed vertically, against a tree or a rock, for example.

Note: The supplementary antenna need not be extended if the transmitter is activated by a survivor in the water. The surface of the sea acts as a reflector.

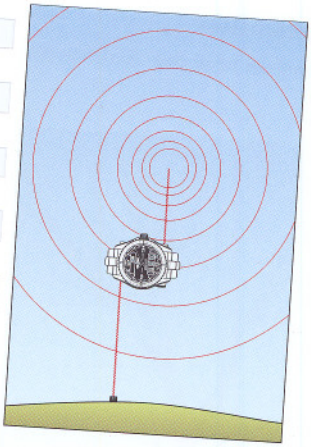
Extending the supplementary antenna

1) Remove the watch from the wrist.

2)Unscrew the supplementary antenna cap (B) counter-clockwise. The seal breaks to allow the cap to be removed.



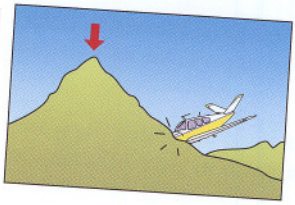
3) Pull out the cap to extend the antenna until resistance is felt. It should go out an arm's length, about 60 cm (24 in). Attention: Unlike cap (A), cap (B) remains fixed to the supplementary antenna.



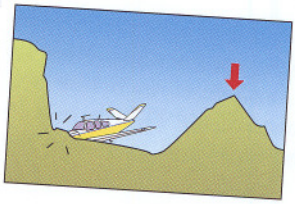
4) Deploy the watch and antennas vertically, with the supplementary antenna hanging free. Avoid all contact between the antennas or with metal. The weight of the cap stabilizes the supplementary antenna.

E

5.3 Where to place the transmitter

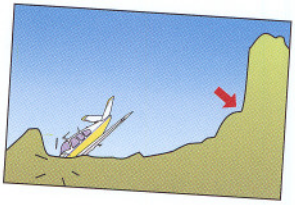


1) Assuming that a survivor is mobile, it is important to deploy the transmitter in the highest and most exposed place possible, to ensure maximum signal range. The red arrow in the illustrations shows the ideal position to place the transmitter.



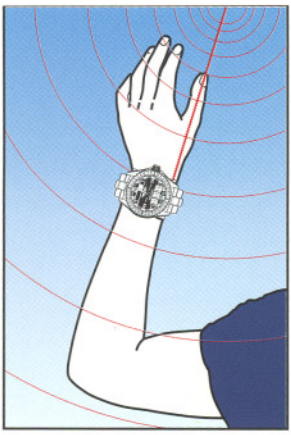
Note: If possible, the transmission site should be chosen before the transmitter is activated.

2) The transmitter should be activated immediately if the user is unable to move.



5.4 How to deploy the transmitter

The best possible results depend on how the EMERGENCY transmitter is deployed.



The watch should be vertical (crown up) with the main antenna stretched up.

Important: The main antenna must not touch the watch case, the supplementary antenna or any other metal object.

5.5 Outside temperature

The temperature affects the range of the transmitter. Its performance is reduced at temperatures below 0°C (32°F). At temperatures below 5°C (40°F), it is best to keep the watch warm on the wrist and to extend the main antenna (A) only.

5.6 Stopping transmission

After rescue, the transmission of the distress signal must be halted. To make the signal inactive, cut the antenna at its base, or wrap it around the watch to short-circuit the electromagnetic transmission.

E

Reminder: As a safety measure, and to discourage misuse, the EMERGENCY has been designed for single operation. Once the transmitter has been activated by extending the antenna, the watch must be returned to a BREITLING service center for the transmitter to be made operational again. The watch will be replaced free of charge if the use of the transmitter has been justified.

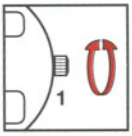
Any malfunction or visible damage to the watch such as cracks in the glass, crown or antenna caps require immediate attention.

Note: The watch and the transmitter are independent. Damage to the watch, as a result of an air crash, for example, does not necessarily mean that the transmitter is out of use.

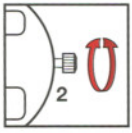
6. TECHNICAL SPECIFICATIONS

Transmitting time:	24-48 hours
Operating temperature range:	-10°C to 85°C
Water resistance of transmitter:	3 ATM / 30 m
Power supply: - Watch	One 1.55V, type 399 battery
- Transmitter	Two 3V, type CR 2025 lithium batteries

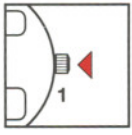
7. USING THE MULTIFUNCTION WATCH



Rotate the crown in position 1 to select functions.



Rotate the crown in position 2 to correct functions.



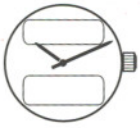
Press on the crown in position 1 to action functions.

Description

This BREITLING electronic movement's various functions are exceptionally logical and simple to use. They are selected and called up merely by actioning the crown.

Selecting functions

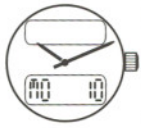
Functions are selected by rotating the crown in position 1 (neutral position) backward or forward. The various functions appear on the dial display in 1 to 8 or 8 to 1 order, depending on the direction of rotation.



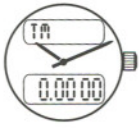
1. Neutral position

2. Local time (hr., min., sec.)

3. Seconds, and date

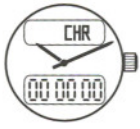


4. Day and date

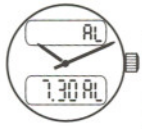


5. Countdown timer : TM

6. Second timezone : T2



7. Chronograph CHR



8. Alarm : AL

8. CORRECTING TIME INFORMATION

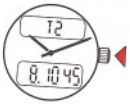
8.1 12H - 24H display

You can choose between two display modes for the time of day:

- 24H, military style,
- two 12H periods: a.m. and p.m.

Selecting and correcting:

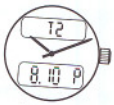
Select the **T2** *(2nd timezone) function by rotating the crown,*



press once on the crown: if the letter **A** *or* **P** *is displayed, the time readout is in the 2x12H mode, as for example:*

E

before noon



after noon

*Note: When the time readout is in the 2x12H mode, a small «***P***» appears next to the hour figure between noon and midnight.*

If no letter is visible, the time readout is in the 24H mode, as for example:

before noon

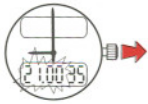
after noon

To change the time display mode, press on the crown twice.

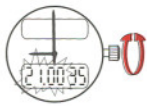
8.2 Setting the watch to the correct time

Put the watch in the 24H time readout mode (see point 8.1).

Select and display local time;



pull the crown out: the hour and minute digits flash on and off;



set the watch to the correct time by rotating the crown: rapid rotation moves the hands forward or backward by a full hour while slow rotation moves them in either direction by one minute;

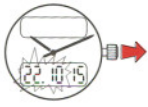
push the crown back against the case.

If desired, return the watch to the 2x12H mode (see point 8.1).

8.3 Adjusting the seconds

If the watch loses or gains a few seconds, after some time on the wrist for instance or following setting operations, it is easily reset to the exact second:

Select and display local time;



pull the crown out: the hour and minute digits flash on and off;

while the seconds digits flash, push the crown back in precisely at an observatory time signal or when a reference time source marks the exact minute: this will return the seconds digits to zero.

Check that the minute display corresponds to the exact time; if it does not, add or substract a minute (see point 8.2).

8.4 Correcting the date and the month

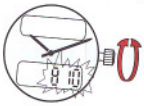
Note: The calendar is programmed to provide the exact date during a full leap-year cycle of four years, thus requiring a correction every February 29 only.

seconds/date

Select the Seconds & Date function display;

month/date

pull the crown out: next to the date, the seconds digits are replaced by the month digit(s), with all digits flashing;



rotate the crown forward or backward: if rotated rapidly, the month will change; if rotated slowly, the date will change;

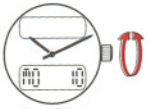
push the crown back in: the seconds digits replace the month.

Leap-year adjustments:
The calendar is programmed to switch automatically from February 28 to March 1; it will therefore have to be adjusted manually every February 29 by moving the date back by one day, from March 1 to February 29.

Please note: Although the watch does not normally display the month, the latter must of course be correctly set to enable the perpetual calendar to function normally.

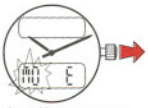
E

8.5 Correcting the day



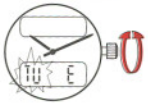
Select the Day & Date function display;

day/date

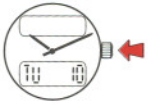


pull the crown out: the date is replaced by a letter corresponding to the language in which the name of the day can be displayed: **E** *for English,* **S** *for Spanish,* **F** *for French, while the day indication flashes; rotate the crown forward or backward to set the exact day in the language desired*

day/language



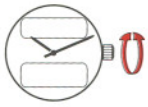
rotate the crown forward or backward to set the exact day in the language desired



push the crown back in: the date replaces the letter.

8.6 Synchronizing the analog and digital time displays

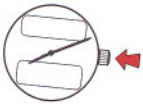
After a battery replacement or, exceptionally, a manipulation error, it may be necessary to synchronize the time shown by the hands with that displayed by the digital readout.



Select the neutral position;

pull the crown out: the digitally displayed time is not the same as the time shown by the hands;

rotate the crown backward or forward until the hands show exactly the same time as the display (rapid rotation of the crown will cause the hands to move in either direction by a complete hour);



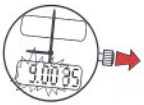
push the crown back in;

return the watch to the display of local time and reset the hands precisely (see point 8.2).

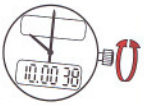
8.7 Changing timezones / to or from summer time

When travelling to another timezone or adjusting the watch to or from summer (daylight saving) time, the hands can be moved forward or backward by one or more complete hours without affecting the indications of the minute and seconds.

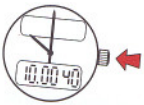
Select and display local time;



pull the crown out: the hour and minute digits will flash;



rotate the crown backward or forward quickly, causing the hands to move in either direction by a full hour with each rotation;

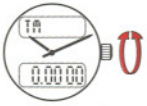


push the crown back in.

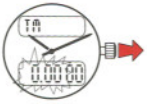
Please remember not to rotate the crown slowly after rotating it rapidly to change timezones.

9. HOW TO USE THE VARIOUS FUNCTIONS

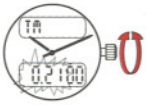
9.1 Using the countdown timer



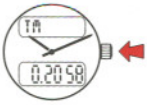
*Select the Timer (**TM**) function;*



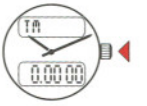
pull the crown out: the hours and minutes will flash;



set the desired time span by rotating the crown forward or backward (rapid rotation changes the hour readout, slow rotation changes the minute readout);



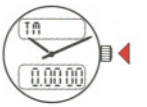
push the crown back in: counting down begins and the watch will buzz at the end of the pre-set time span;



press on the crown to end the buzzing.

To cancel an ongoing countdown operation:

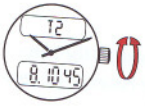
*select the Timer (**TM**) function;*



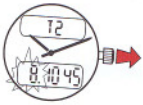
press on the crown during more than two seconds: the timer will return to zero.

9.2 Displaying a second timezone

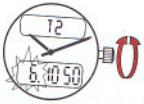
This watch is designed to display, if desired, another timezone in addition to local time.



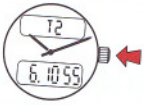
*Select the Second Timezone (**T2**) function;*



pull the crown out: the digits corresponding to the 2nd timezone begin flashing;



rotate the crown forward or backward;

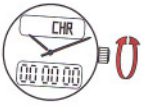


push the crown back in.

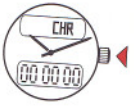
Note: The minute and the seconds readouts cannot be changed and always remain on local time.

Remember to take into account the watch's time mode (2x12H or 24H) when selecting and displaying a second timezone (see point 8.1).

9.3 Using the chronograph



*Select the Chronograph (**CHR**) function;*



press on the crown to start the chronograph;

press the crown again to stop the chronograph;

a further press on the crown will restart the chronograph, allowing a series of short times to be measured and added together;

return the chronograph to zero by pressing on the crown for more than two seconds.

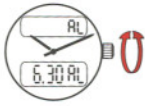
While the chronograph is in use, any other function of the watch can be selected and used. However, the watch must be returned to the chronograph (CHR) mode for stopping and reading chronograph times and returning this function to zero.

The chronograph has a maximum time limit of 23 hours, 59 minutes, 59 seconds and 99/100ths. If the time being measured is longer than one hour, the display will alternate between readouts of the hour and of the minutes - seconds - hundredths, once the timing operation is stopped.

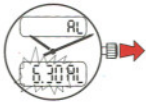
2 hours

35 min. 18.10 secs.

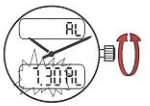
9.4 Using the alarm function



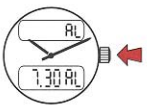
*Select the alarm (**AL**) function;*



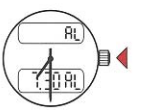
pull the crown out: the digits will flash;



display the desired alarm time by rotating the crown forward or backward (rapid rotation changes the hour readout, slow rotation changes the minute readout);



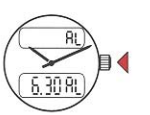
push the crown back in: «AL» appears, confirming that the alarm function is running;



when the alarm sounds, press on the crown to end the buzzing.

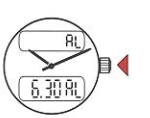
To set or reset the alarm, press on the crown after selecting the alarm (AL) function.

E



AL *displayed: alarm on*

OF *displayed: alarm off*



To test the alarm function, press on the crown during more than two seconds after selecting the alarm (AL) function: the buzzer will sound.

Note: Remember to take into account the watch's time mode (2x12H or 24H) when setting the alarm to the desired time (see point 8.1).

9.5 Important remarks

This watch's movement includes a battery end-of-life (EOL) warning system, signalled by the digital readout's flashing mode. The battery should then be replaced during the following days by an authorized BREITLING dealer. Ask that the watch undergo a watertightness check whenever its battery is changed.

This BREITLING chronograph was designed to withstand the pressure level inscribed on the case back.

Please note: The crown should not be actioned while the watch is under water or when it is wet. After exposing the watch to sea water, remember always to rinse its case and metal bracelet in fresh running water.

Maintenance, replacement or repair work on your BREITLING watch should be entrusted only to an authorized BREITLING servicing and repair center or to an official BREITLING dealer. Should any such work be required during the warranty coverage period, remember to include the original Warranty Certificate duly completed, dated and signed by the official dealer from whom the watch was purchased.

Servicing: We recommend that you have the EMERGENCY transmitter-watch checked at a BREITLING EMERGENCY service center every two years.