

Ω
OMEGA

Speedmaster

SKYWALKER

X-33

OPERATING INSTRUCTIONS

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INTRODUCTION

SPECIAL RECOMMENDATIONS

What must I do to ensure that my OMEGA watch provides me with excellent service for many years?

Magnetic fields : avoid placing your watch on computers, loudspeakers or refrigerators, since they generate powerful magnetic fields.

Swimming in the sea : always rinse your watch with fresh water afterwards.

Shocks : whether physical, thermal or other, avoid them.

Crown : push it back against the case into the wearing position to prevent moisture from entering the case.

Cleaning : for metal bracelets, rubber straps and water-resistant cases, use a toothbrush and soapy water for cleaning and dry with a soft cloth.

Chemical products : avoid direct contact with solvents, detergents, perfumes, cosmetics etc., since they may damage the bracelet, case or gaskets.

Temperature : avoid exposure to extreme temperatures (greater than 60°C, or 140°F, less than 0°C, or 32°F) or extreme temperature changes.

Water-resistance : a watch's water-resistance cannot be permanently guaranteed. It may notably be affected by the ageing of gaskets or by an accidental shock to the crown. As stipulated in our service instructions, we recommend you have the water resistance of your watch checked once a year by an authorised OMEGA Service Centre.

Chronograph push-pieces : do not operate chronograph pushers under water in order to prevent water entering the mechanism.

What are the service intervals ?

Like any precision instrument, a watch needs regular servicing to ensure that it functions perfectly. We cannot indicate the frequency of such work, since it depends entirely on the model, the climate and the owner's individual care of the watch. As a general rule, a watch should be serviced every 4 to 5 years, depending on the conditions in which it is used.

Who should I contact for a maintenance service or battery replacement ?

We recommend that you contact an approved OMEGA service centre or authorised OMEGA retailer. They are equipped with the tools and apparatus required to carry out the work and the necessary checks in a professional manner. Furthermore, these entities can guarantee that their work is carried out in accordance with OMEGA's strict quality standards.

A worn-out battery should be replaced immediately in order to reduce the risk of leakage and consequent damage to the movement. The type of battery is defined on the guarantee card enclosed with your watch.

ENVIRONMENTAL PROTECTION



Collection and treatment of end of life Quartz watches* This symbol indicates that this product should not be disposed with household waste. It has to be returned to a local authorised collection system. By following this procedure you will contribute to the protection of the environment and human health. The recycling of the materials will help to conserve natural resources.

* valid in EU member states and in any countries with corresponding legislation.

OMEGA INTERNATIONAL WARRANTY (VALID FOR U.S.A. ONLY)

INTRODUCTION

Your OMEGA® watch is warranted by OMEGA SA* FOR A PERIOD OF TWENTY-FOUR (24) MONTHS, FROM THE DATE OF PURCHASE under the terms and conditions of this warranty. The international OMEGA warranty covers material and manufacturing defects existing at the time of delivery of the purchased OMEGA watch ("defects"). The warranty only comes into force if the warranty certificate is dated, fully and correctly completed and stamped by an official OMEGA** dealer ("valid warranty certificate"). During the warranty period and by presenting the valid warranty certificate, you will have the right to have any defect repaired free of charge. In the event that repairs are unable to restore the normal conditions of use of your OMEGA watch, OMEGA SA guarantees its replacement by an OMEGA watch of identical or similar characteristics. The warranty for the replacement watch ends twenty-four (24) months, after the date of purchase of the replaced watch.

THIS MANUFACTURER'S WARRANTY DOES NOT COVER :

- the life of the battery.
- normal wear and tear and ageing (for example scratched crystal; alteration of the colour and/or material of non metallic straps and chains, such as leather, textile, rubber).
- any damage on any part of the watch resulting from abnormal/abusive use, lack of care, negligence, accidents (knocks, dents, crushing, broken crystal, etc.), incorrect use of the watch and non-observance of the operating instructions provided by OMEGA SA.
- the OMEGA watch handled by non-authorized persons (for example for battery replacement, service or repair) or which has been altered in its original condition beyond OMEGA SA's control.

ALL APPLICABLE IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE GIVEN TO YOU BY LAW ARE HEREBY LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY. UNDER NO CIRCUMSTANCES WILL OMEGA SA BE LIABLE FOR ANY INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY KIND.

Some states do not allow limitations on how long implied warranties last, or exclusions or limitations of incidental or consequential damages, so exclusions or limitations mentioned may not apply to you. This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

OMEGA SA's OBLIGATION IS STRICTLY LIMITED TO REPAIR OR REPLACEMENT AS EXPRESSLY STATED IN THIS LIMITED WARRANTY. YOUR OFFICIAL OMEGA DEALER CARRIES SOLE RESPONSIBILITY FOR ANY OTHER GUARANTEES.

The OMEGA customer service ensures the perfect working order of your OMEGA watch. If your watch needs maintenance, rely on an official OMEGA dealer or an authorized OMEGA Service Center. They can guarantee service according to OMEGA SA's standards.

* OMEGA SA

Rue Stämpfli 96, CH-2500 Bienne 4

** OMEGA SA Specialist Dealer in EU Countries

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OMEGA INTERNATIONAL WARRANTY

INTRODUCTION

Your OMEGA® watch is warranted by OMEGA SA* for a period of twenty-four (24) months, from the date of purchase under the terms and conditions of this warranty. The international OMEGA warranty covers material and manufacturing defects existing at the time of delivery of the purchased OMEGA watch ("defects"). The warranty only comes into force if the warranty certificate is dated, fully and correctly completed and stamped by an official OMEGA** dealer ("valid warranty certificate"). During the warranty period and by presenting the valid warranty certificate, you will have the right to have any defect repaired free of charge. In the event that repairs are unable to restore the normal conditions of use of your OMEGA watch, OMEGA SA guarantees its replacement by an OMEGA watch of identical or similar characteristics. The warranty for the replacement watch ends twenty-four (24) months, after the date of purchase of the replaced watch.

THE ABOVE MANUFACTURER'S WARRANTY :

- is independent of any warranty that may be provided by the seller, for which he carries sole responsibility;
- does not affect the purchaser's rights against the seller nor any other mandatory statutory rights the purchaser may have against the seller.

The OMEGA customer service ensures the perfect maintenance of your OMEGA watch. If your watch needs attention, rely on an official OMEGA dealer or an authorised OMEGA Service Centre. They can guarantee service according to OMEGA SA's standards.

THIS MANUFACTURER'S WARRANTY DOES NOT COVER :

- the life of the battery.
- normal wear and tear and ageing (for example scratched crystal; alteration of the colour and/or material of non metallic straps and chains, such as leather, textile, rubber).
- any damage on any part of the watch resulting from abnormal/abusive use, lack of care, negligence, accidents (knocks, dents, crushing, broken crystal, etc.), incorrect use of the watch and non-observance of the operating instructions provided by OMEGA SA.
- any consequential or indirect damage resulting from the use, failure to operate, defects or lack of precision of the OMEGA watch.
- the OMEGA watch handled by non-authorized persons (for example for battery replacement, service or repair) or which has been altered in its original condition beyond OMEGA SA's control.

Any further claim against OMEGA SA, for example for damages additional to the above described warranty is expressly excluded, except mandatory statutory rights the purchaser may have against the manufacturer.


* OMEGA SA

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** OMEGA SA Specialist Dealer in EU Countries

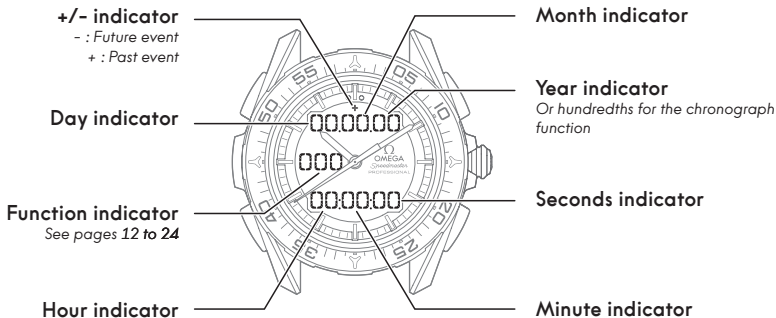
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DESCRIPTION DISPLAYS

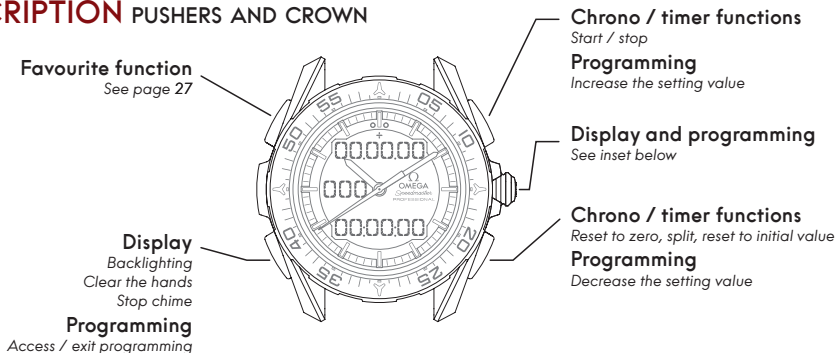
 The information contained in this document is for the standard use of the SPEEDMASTER SKYWALKER X-33 model. For further information, consult the Internet site (www.omegawatches.com/skywalker).








The SPEEDMASTER SKYWALKER X-33 watch was designed in collaboration with the European Space Agency (ESA) to enable astronauts to manage the various stages of their missions.

In addition to the usual watch functions, the SPEEDMASTER SKYWALKER X-33 has special functions for programming the various phases of a mission or a project.



DESCRIPTION PUSHERS AND CROWN



General information	Using the crown	
<p> Press once</p>	<p> Display Access the next function Programming Access the next setting</p>	<p> Display Access the second page of the selected function</p>
<p> Press twice</p>	<p> Display Access the function groups</p>	<p> Programming Activate energy saving mode (see page 26)</p>
<p> Press and hold (~ 3 seconds)</p>		

USE GENERAL INFORMATION

NAVIGATING BETWEEN GROUPS AND PAGES

The functions are separated into **two groups** (see illustration opposite).

Pressing once on the crown brings up the **next function**.

Pressing and holding brings up the **second group** of functions.

Certain functions are displayed over **two pages**. **Pressing twice** on the crown brings up **page 2** if it is available (see illustration opposite (1/2)).

The display returns to **page 1** after 10 seconds, or by **pressing once** on the crown.

PROGRAMMING MODE

In **programming mode**, the hands move so as to **clear the displays**.

Programming exited automatically after 20 seconds without activity.

When a **chime** sounds, the **display flashes** and brings up the function concerned.

For programmable functions, when the selection **000** is used, the function is **deactivated** and the programming is **erased**.



To better understand the watch functionalities (see the examples described on pages 28 and 30).

USE NAVIGATING BETWEEN FUNCTIONS

Universal Time Coordinated

International reference time

See page 12

Time T1

Time defined by the user

See page 14

Time T2

Time defined by the user

See page 14

Mission Elapsed Time

Mission reference time

See page 18

Chronograph

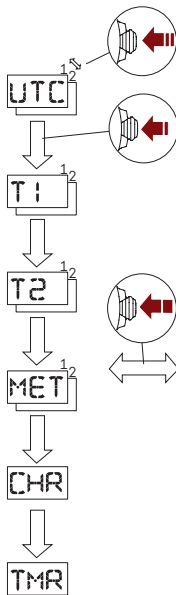
Chronograph function

See page 24

TIMER

Countdown function

See page 22



Phase Elapsed Time 1

First milestone reference

See page 20

Phase Elapsed Time 2

Second milestone reference

See page 20

Phase Elapsed Time 3

Third milestone reference

See page 20

Alarm 1

First alarm

See page 16

Alarm 2

Second alarm

See page 16

Alarm 3

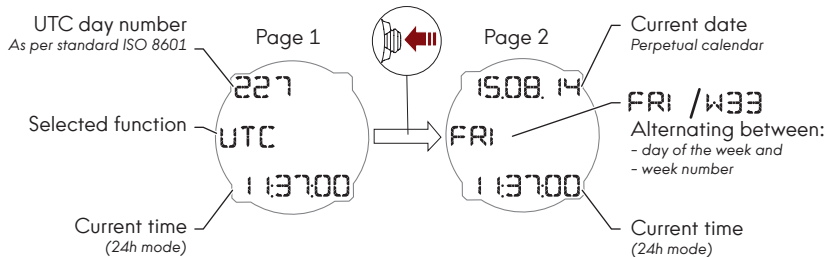
Third alarm

See page 16

UTC DISPLAY

Universal time display (Universal Time Coordinated).

This time was previously known as GMT, and this name is still used in certain fields.



The **T1** and **T2** functions (see page 14) are set in relation to UTC.

UTC PROGRAMMING



← Select function **UTC**



*Because **UTC** is the time base used for all the other watch functions, it must be programmed first.*



Enter programming



+ increment

Confirm and move to the next setting⁽¹⁾

- increment

⁽¹⁾ Follow the same procedure for the settings below:

- year, month, day;
- hour, minute, second.



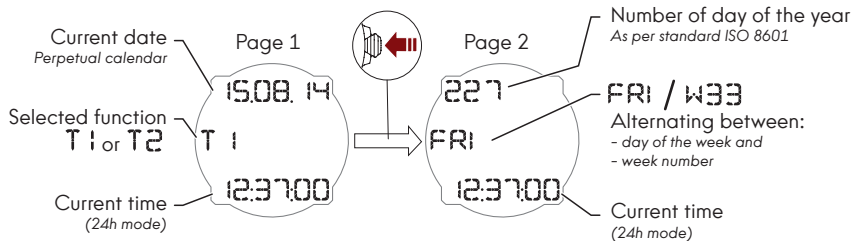
Exit programming

TIME ZONES T1 AND T2 DISPLAY

T1 is used for **local time**. The hands continuously display T1 time.

T2 is used for the **second time zone**. T2 is not displayed with the hands.

i To set T1 and T2, only the time difference from UTC needs to be programmed. So the UTC time must be set before programming T1 and T2.



TIME ZONES T1 AND T2 PROGRAMMING



← Select function **T1** or **T2**

i The programming consists of defining the time difference between the desired time and **UTC**.



Enter programming

i During programming, the "+" or "-" sign above the display indicates that the time difference from **UTC** is positive or negative.



+ increment ⁽²⁾

← Confirm and move to the next setting ⁽¹⁾

- increment ⁽²⁾

⁽¹⁾ Follow the same procedure for the settings below:

- hour, minute.

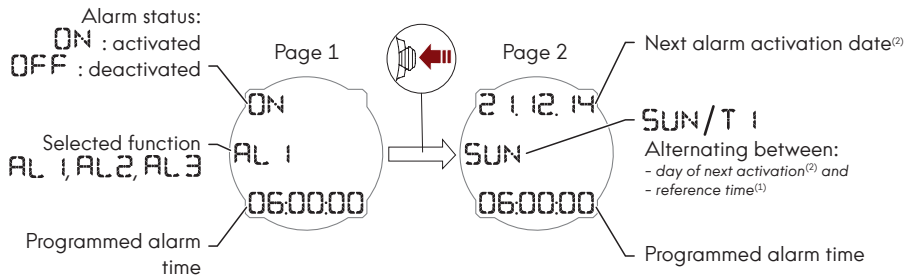


Exit programming

⁽²⁾ It is possible to programme the hour in 1-hour intervals, and the minute in 15-minute intervals.

ALARM DISPLAY

Three alarms are available: **AL 1**, **AL 2** and **AL 3**. They all work the same way.



⁽¹⁾ The reference time may be **T 1**, **T 2** or **UTC**.

⁽²⁾ The alarm sounds for each possible occurrence. For example, if you only set the chime time, without incorporating the date or day, the alarm will sound every day at the set time.

 For information about the chimes see page 25.

ALARM PROGRAMMING

Activating the alarm



Select function
AL 1 or AL 2 or AL 3



Select function
AL 1 or AL 2 or AL 3



Enter programming



Activate/deactivate the
alarm



+ increment

Confirm and move to
the next setting⁽¹⁾

- increment



Exit programming

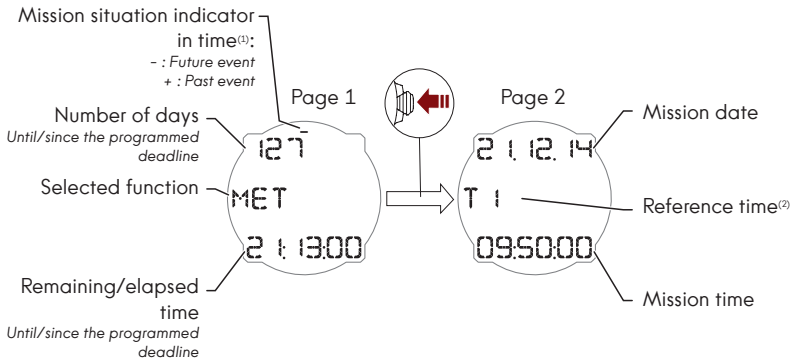
⁽¹⁾ Follow the same procedure for the settings below:

- reference time T1, T2, UTC;
- year, month, day;
- hour, minute, second;
- day of the week.

MET DISPLAY

"Mission Elapsed Time"

This function displays the remaining time (-) or elapsed time (+) since the start of the mission (see pages 26 and 30 for examples).



⁽¹⁾ If the mission start time has passed, the sign at the top of the display turns to "+" and the time continues to be counted from the mission time.

⁽²⁾ The reference time may be T1, T2 or UTC.

 For information about the chimes see page 25.

MET PROGRAMMING



← Select function **MET**

i The "-" sign indicates that the event is in the future. The "+" sign indicates that the event is in the past.



Enter programming

i The **MET** function can be programmed up to a countdown of 999 days, 23 hours, 59 minutes, and 59 seconds.



+ increment

← Confirm and move to the next setting⁽¹⁾

- increment

⁽¹⁾ Follow the same procedure for the settings below:

- reference time **T1, T2, UTC;**
- year, month, day;
- hour, minute, second.



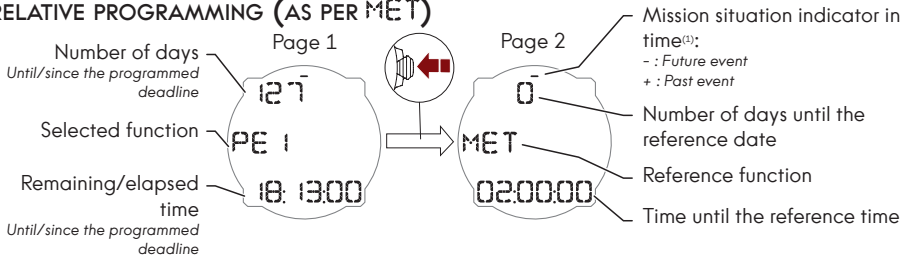
Exit programming

PET DISPLAY

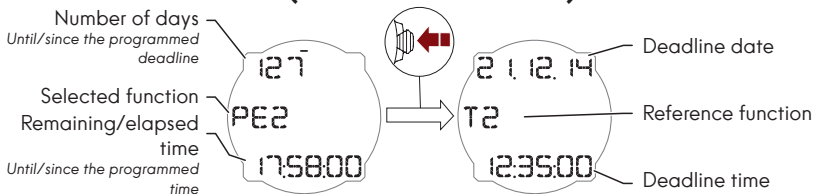
"Phase Elapsed Time"

Three phases can be programmed **PE 1**, **PE 2** and **PE 3**, either according to **MET** with a defined difference in days and hours (relative programming), or at a given date and time as per **T 1**, **T 2** or **UTC** (absolute programming).

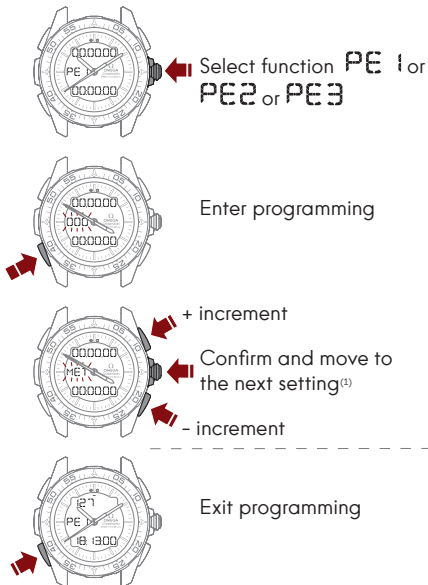
RELATIVE PROGRAMMING (AS PER MET)



ABSOLUTE PROGRAMMING (AS PER T 1, T 2 OR UTC)



PET PROGRAMMING



i The "-" sign indicates that the event is in the future. The "+" sign indicates that the event is in the past.

i The PE 1, PE2 and PE3 functions can be programmed for a countdown of up to 999 days, 23 hours, 59 minutes and 59 seconds. If a greater time is entered, the programming will be disregarded.

📖 For information about the chimes see page 25.

⁽¹⁾ Follow the same procedure for the settings below:

- reference time T1, T2, UTC or MET;

Relative programming (as per MET):

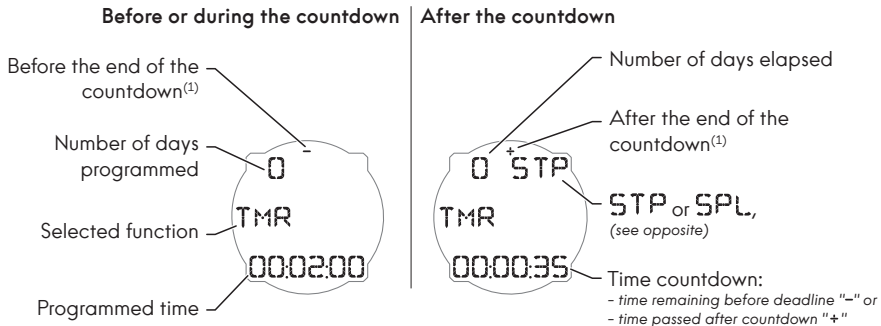
- number of days;
- number of hours, minutes and seconds.

Absolute programming (as per T1, T2 or UTC):

- year, month, day;
- hour, minute, second.

TIMER DISPLAY

The TIMER function allows you to count down a pre-defined time period, and then count the elapsed time after passing zero.



⁽¹⁾ AT the end of the countdown, the "+" sign appears in place of the "-" sign, and the time is counted from the TIMER zero point.



The TIMER can be programmed up to a countdown of 99 days, 99 hours, 59 minutes, 59 seconds and 99 hundredths. Afterwards the time can be counted up to the same values.



For information about the chimes see page 25.

TIMER

PROGRAMMING



← Select function **TMR**



Enter programming



+ increment

← Confirm and move to the next setting

← - increment



Exit programming

USE



Start/stop (**STP**) the countdown/time count



SPL : Stop/restart from displayed time

The countdown/time count continues



Reset to zero

*When the **TIMER** has been stopped (**STP**)*

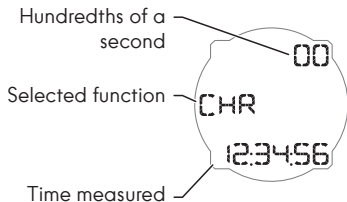
After resetting to zero, the last time programmed is displayed




Stop chime

CHRONOGRAPH

DISPLAY




 After 99 hours, 59 minutes, 59 seconds and 99 hundredths, the timing is stopped and reset to zero automatically.

USE





 Select function




 Start/stop (STP) the time measurement



 Stop (STP) /restart the time measurement

 Display split time (SPL)
Press again to continue the time measurement



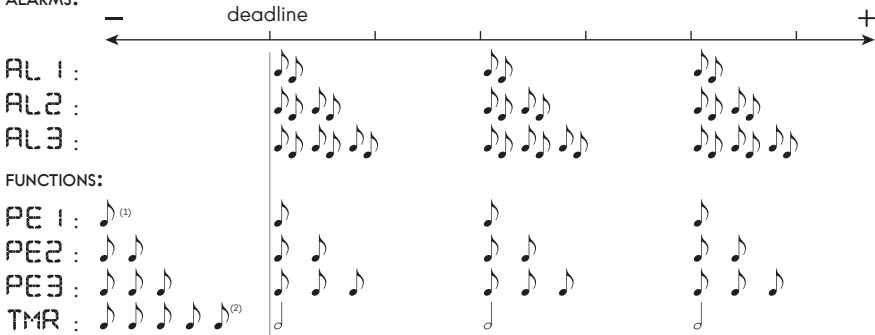
 Reset chrono to zero
When the chronograph has been stopped (STP)

CHIMES

Several types of chime are used for the following different functions and priorities:

SEQUENCES

ALARMS:



⁽¹⁾ For all the PET functions, three chimes sound one minute before the deadline.

⁽²⁾ The last five seconds sound before the TIMER chimes.

PRIORITIES

- If two ALARMS or PET functions are due to sound at the same time, only the smaller number sounds;
- an ALARM interrupts a PET and the TIMER;
- the TIMER interrupts a PET.

SPECIAL FUNCTIONS

ENERGY SAVING MODE

The energy saving mode is activated by pulling the crown out.

- the display disappears;
- the hands move to 12 o'clock;
- all the measurements in progress continue, but the chimes are deactivated.

Push the crown back in to exit energy saving mode.



SYNCHRONISATION

If the watch is in energy saving mode, it is possible to synchronise the hands. If the hands do not display exactly 12:00:00, follow the procedure below:

- press **P4** to move the hour and minute hands forward in half-minute intervals;
- press **P3** to move the hour and minute hands forward in one-hour intervals;
- press **P1** to move the seconds hand forward in one-second intervals.

DISPLAY LIGHTING

This function facilitates reading the display information.



STANDBY MODE

Standby mode is automatically activated after 5 days without any activity.

- the display disappears;
- the hands continue to indicate **T** !;
- all the measurements in progress continue;
- the ALARMS, TIMER and PET can still sound (if the chime is not stopped by the user, the watch returns to standby mode after 20 seconds).

Press one of the pushers or the crown to exit standby mode.

FAVOURITE FUNCTION

It is possible to record a directly accessible favourite function by pressing pusher **P4**.

PROGRAMMING



Select function



Record function

USE



Toggle between the favourite function and the last function displayed



EXAMPLE 1 TRIP PLANNING

The functions of the SPEEDMASTER SKYWALKER X-33 watch can be useful in a host of situations in everyday life, at the office, in sport or travel.

Let's take the case of planning a trip from Zurich to New York for the Christmas holidays.

With take-off scheduled at 9:50 from Zurich, and landing at 12:35 in New York on 21 December, you should program a wake-up time using an alarm, and the check-in time using a PET function (in order to find out the time remaining until the check-in deadline).

Since the main deadline of the "mission" is take-off from Zurich, the MET function will be programmed to this time. The landing phase will be programmed according to New York time.

Setting the time zones:

T1 : Zurich time = **UTC** +1 hour (see page 14)

T2 : New York time = **UTC** -5 hours (see page 14)

Programming:

MET : reference **T1** at 9:50 on 21.12.2014 (see page 18)

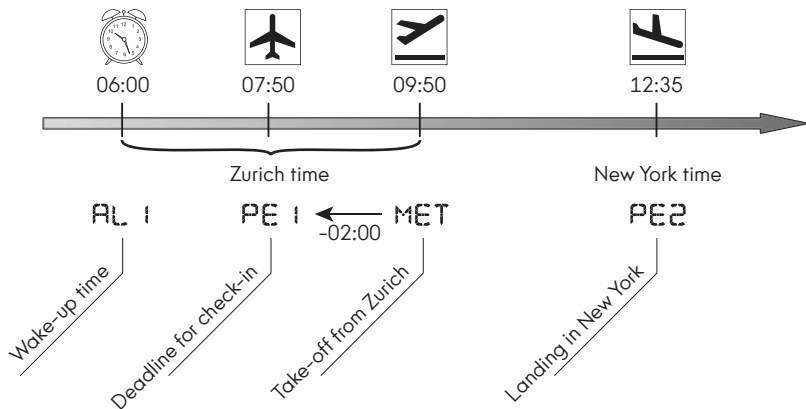
PE1 : reference **MET** -2 hours (relative programming, see page 20)

PE2 : reference **T2** at 12:35 on 21.12.2014 (absolute programming, see page 20)

AL1 : reference **T1** at 6:00 on 21.12.2014 (see page 16)

EXAMPLE 1 TRIP PLANNING (CONTINUED)

The trip is made up of the following phases and deadlines:



EXAMPLE 2 SPACE MISSION

The SPEEDMASTER SKYWALKER X-33 watch was specially designed in collaboration with the European Space Agency (ESA) to enable astronauts to manage the various stages of their missions. The one described below represents a specific application scenario for which this watch was designed.

The mission consists of executing the following points:

- take-off from Kourou on an Ariane M rocket designed for lunar missions;
- establishing terrestrial orbit;
- injection into lunar transfer;
- establishing lunar orbit;
- separation of the descent and landing module;
- moon walk outside of the module in full-pressure suit;
- take-off to meet up with the return module waiting in lunar orbit;
- approach and docking to the return module;
- injection into terrestrial transfer;
- atmospheric entry off Kourou.

EXAMPLE 2 DEFINITION OF FUNCTIONS

Setting the time zones:

UTC : reference time zone.

T1 : Kourou time zone, French Guiana = UTC -3.

T2 : Cologne time zone => UTC +2 (astronaut's family home).

Programmable functions:


MET : rocket take-off time. This function will be defined as a favourite, and monitored by the astronaut throughout the mission.

PE1 : booster ignition time for establishing terrestrial orbit. Certain stages prior to transfer booster ignition must be executed with precision, and will be monitored with **PE1**.

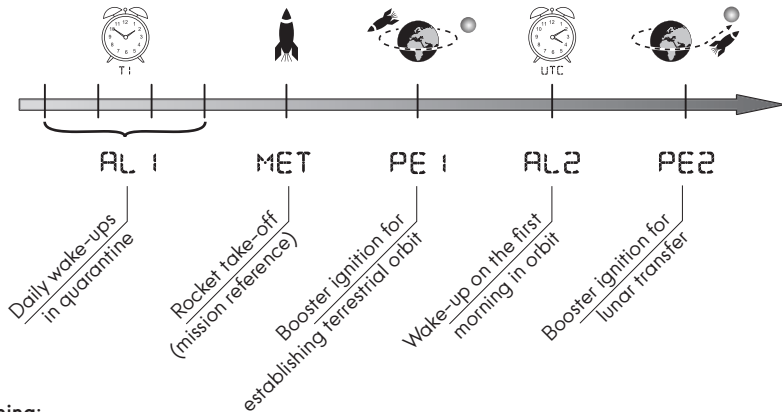
PE2 : booster ignition time for lunar transfer. Certain stages prior to booster ignition must be executed with precision, and will be monitored with **PE2**.

AL1 : daily wake-ups during the mission preparation quarantine phase.

AL2 : astronaut wake-up in orbit around the Earth on the first morning.

 *This example describes only the functions as far as lunar transfer propulsion, with the parameters below specific to the rocket trajectory during propulsion.*

EXAMPLE 2 PROGRAMMING



Programming:

AL 1 : reference **T 1** at 02:50:00 (see page 16)

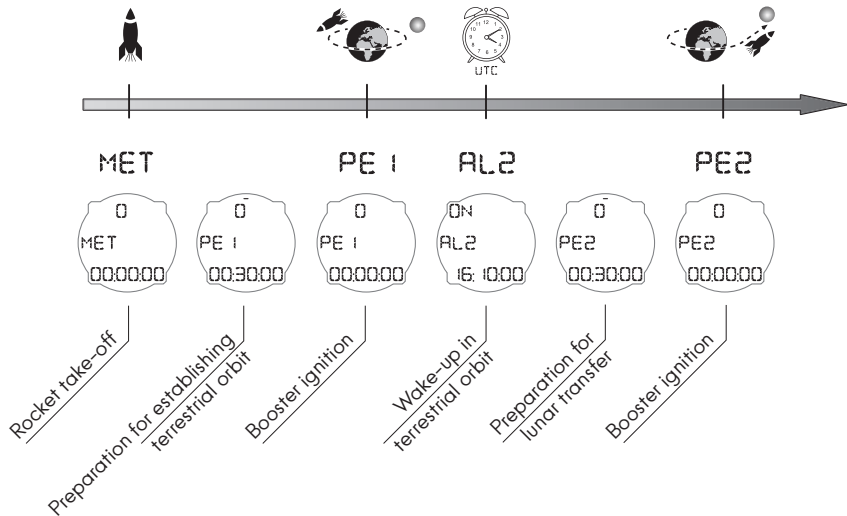
MET : reference **UTC** at 08:22:06 on 23.05.2014 (see page 18)

PE 1 : reference **MET** +51 minutes, 34 seconds (relative programming, see page 20)

AL2 : reference **UTC** at 16:10:00 on 23.05.2014 (see page 16)

PE2 : reference **MET** +1 day, 21 minutes, 52 seconds (relative programming, see page 20)

EXAMPLE 2 USE



GLOSSARY

UTC	Universal Time Coordinated. This is the international reference time.
MET	"Mission Elapsed Time". This is the elapsed time from the start of the mission defined on one of the time scales T1 , T2 or UTC . In the case of a space flight, it is the precise moment of rocket take-off.
PET	"Phase Elapsed Time". This is the time remaining until an event (negative), or the elapsed time since this event (positive), defined as per MET , T1 , T2 or UTC .

TROUBLESHOOTING

The hands do not show the same time as the T1 display:

- The hands are out of synch. See the synchronisation procedure on page 26.















The seconds hand makes 5-second jumps:

- The battery is at the end of its service life (the battery must be replaced by an authorised OMEGA® dealer).

After programming MET or PET, the countdown remains at 0:

- The date programmed would mean a countdown in excess of 999 days, 23 hours, 59 minutes and 59 seconds.

PICTOGRAMS

-  Day-date
-  WEEE regulations
-  Split-time counter
-  2-year international warranty
-  Quartz
-  End of battery life indicator
-  Time zone function
-  Second time zone
-  Perpetual calendar
-  Thermocompensated quartz movement
-  Water-resistant to positive pressure of 3 bar (30 metres / 100 feet)
-  Sapphire glass
-  Double anti-reflective treatment
-  Button-type lithium-manganese dioxide battery cell

A list of service centers can be consulted on <http://omegawatches.com/csnetwork>



www.omegawatches.com

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