
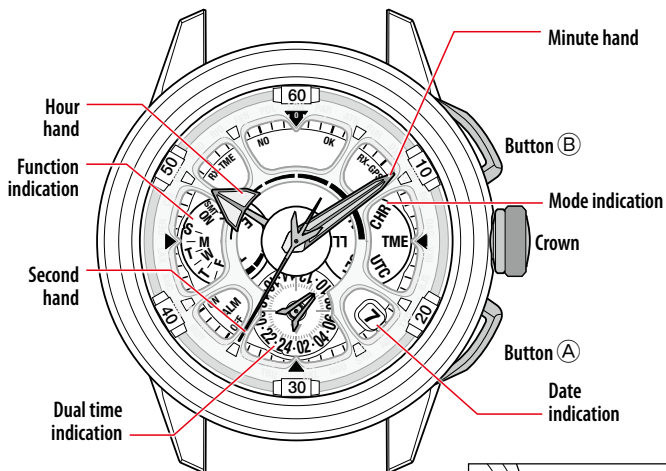


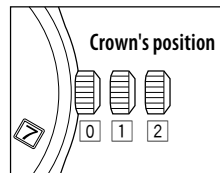
- This watch is solar-powered. Expose the dial to light and use it sufficiently charged.
- To see details of charging time, specifications and operations, refer to the instruction manual:  F990 instruction manual

## Component identification

### Hands and buttons



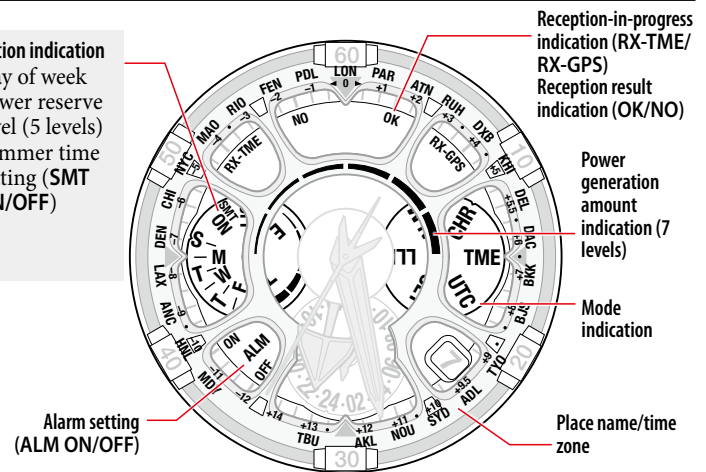
- Actual appearance may differ from the illustration.
- The crown has two positions when pulling it out.



### Indication

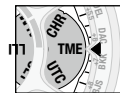
#### Function indication

- Day of week
- Power reserve level (5 levels)
- Summer time setting (SMT ON/OFF)



## Changing the mode

- Pull the crown out to position 1.**  
The second hand points to 30 seconds and stops.
- Rotate the crown to set a mode name on the mode indication to the ◀ marker.**
  - Set the mode name you want horizontal.
- Push the crown in to position 0 to finish the procedure.**  
The watch changes indication according to the selected mode.



Marker of mode indication

## Checking the power reserve

You can see current power reserve amount by referring to the power reserve indication.

- Change the mode to [TME] or [UTC] and push the crown in to position 0.**
- Press and release the upper right button B.**  
The function indication indicates the power reserve in level and the second hand points the current time zone setting of the home time.
  - The power reserve level is always shown in the [LLI] mode.

| Level      | 4                            | 3                           | 2                   | 1                             | 0  |
|------------|------------------------------|-----------------------------|---------------------|-------------------------------|--|
| Indication |                              |                             |                     |                               |  |
| Duration   | About 1.5 - 1.2 years        | About 1.2 years - 10 months | About 10 - 4 months | About 4 months - 5 days       | 5 days or shorter                        |
| Meaning    | Power reserve is sufficient. | Power reserve is OK.        |                     | Power reserve is getting low. | Insufficient charge warning has started. |
|            | OK for normal use            |                             |                     |                               | Charge immediately.                      |

- Press and release the upper right button B to finish the procedure.**  
The second hand returns to indicate the second.
  - The hand returns automatically in 10 seconds without pressing the button.



## Checking power generation amount (Light-Level Indicator)

1. **Change the mode to [LLI] and push the crown in to position 0.**

The function indication indicates the power reserve amount in levels.

2. **Press and release the upper right button (B).**

The second hand indicates power generation amount in level.

- Power generation amount is measured in 1-second interval and indicated in levels.

| Level      | 6   | 5 | 4  | 3 | 2 | 1 | 0 |
|------------|---|---|--|---|---|---|---|
| Indication |   |   |  |   |   |   |   |
| Meaning    | Sufficient power generation for charging. |   | Charge in a brighter location where the level of power generation amount reaches "5" or "6". |   |   |   |   |

3. **Press and release the upper right button (B) to finish the procedure.**

The second hand returns to indicate the second.

- It returns to current time indication automatically in about 30 seconds without pressing the button.

## Checking the reception result of the satellite signal

1. **Change the mode to [TME] or [UTC] and push the crown in to position 0.**

2. **Press and release the lower right button (A).**

The second hand indicates the result of the last reception.

|    |  |                           |
|----|--|---------------------------|
| OK |  | Reception was successful. |
| NO |  | Reception failed.         |

- The indication shows the result of the last reception, regardless types of received information, or information of location or time.

3. **Press button (A) to finish the procedure.**

The second hand returns to indicate the second.

- The hand returns automatically in 10 seconds without pressing the button.

## Receiving the satellite time signal

- To cancel the reception, press and hold any button until the second hand returns to indicate the second.

### Obtaining location information

The watch sets the world time and adjusts the time and calendar for the home time automatically using location information obtained.

- It may take 30 seconds - 2 minutes to obtain location information.

1. **Change the mode to [TME] or [UTC] and push the crown in to position 0.**

2. **Press and hold the upper right button (B) for 2 seconds until the second hand points "RX-GPS".**

- After finishing the reception, the second hand indicates the new setting and returns to indicate the second.

### Time reception

- It may take 3 - 30 seconds to receive time information.

1. **Change the mode to [TME] or [UTC] and push the crown in to position 0.**

2. **Press and hold the lower right button (A) for 2 seconds until the second hand points "RX-TME".**

- After finishing the reception, the second hand indicates the reception result and returns to indicate the seconds.

### Leap second reception

- It may take 36 - 13 seconds to receive time information.

1. **Change the mode to [TME] or [UTC] and push the crown in to position 0.**

2. **Press and hold the lower right button (A) for 7 seconds.**

- Release the button after the second hand points "RX-TME" and turns fully around to point "RX-TME" again. Reception starts.

- After finishing the reception, the second hand indicates the reception result and returns to indicate the seconds.



## Setting the world time manually

This watch can indicate the time around the world according to which of 39 time zones (offsets from UTC — Coordinated Universal Time) is chosen.

### 1. Change the mode to [TME] or [LLI] and pull the crown out to position 2.

The second hand indicates the current time zone setting of the home time.

- When the mode is [UTC], you can only change the time zone setting of the home time.

### 2. Press and release the upper right button (B).

The second hand indicates the current time zone setting of the local time.

- Each time you press button (B), the minute hand of setting target slightly moves and the target (home time/local time) of time zone setting changes alternately.

### 3. Rotate the crown to choose a time zone.

Time indication changes.

### 4. Push the crown in to position 0 to finish the procedure.

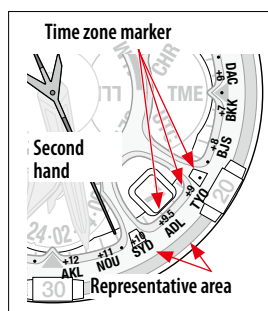
The second hand returns to indicate the second.

### How to read indication of the world time setting

The watch has 39 time zone markers with several representative area names. A time zone is set by pointing the second hand at one of the markers.

In the illustration on the right, the second hand points to 26 seconds and time zone setting is "+10.5".

- Time zones are represented by offsets from UTC.



### Table of time zones and representative places

(Based on information as of January 2018)

| Time zone | Second hand | Area name | Representative area |
|-----------|-------------|-----------|---------------------|
| 0         | 0           | LO        | London              |
| +1        | 2           | PAR       | Paris               |
| +2        | 4           | ATH       | Athens              |
| +3        | 6           | RUH       | Riyadh              |
| +3.5      | 7           | —         | Tehran              |
| +4        | 8           | DXB       | Dubai               |
| +4.5      | 9           | —         | Kabul               |
| +5        | 10          | KHI       | Karachi             |
| +5.5      | 12          | DEL       | Delhi               |
| +5.75     | 13          | —         | Kathmandu           |
| +6        | 14          | DAC       | Dhaka               |
| +6.5      | 15          | —         | Yangon              |
| +7        | 16          | BKK       | Bangkok             |
| +8        | 18          | BJS (HKG) | Beijing/Hong Kong   |
| +8.5      | 19          | —         | Pyongyang           |
| +8.75     | 20          | —         | Eucla               |
| +9        | 21          | TYO       | Tokyo               |
| +9.5      | 23          | ADL       | Adelaide            |
| +10       | 25          | SYD       | Sydney              |
| +10.5     | 26          | —         | Lord Howe Island    |

| Time zone | Second hand | Area name | Representative area |
|-----------|-------------|-----------|---------------------|
| +11       | 27          | NOU       | Noumea              |
| +12       | 29          | AKL       | Auckland            |
| +12.75    | 31          | —         | Chatham Islands     |
| +13       | 32          | TBU       | Nuku'alofa          |
| +14       | 34          | —         | Kiritimati          |
| -12       | 36          | —         | Baker Island        |
| -11       | 38          | MDY       | Midway              |
| -10       | 40          | HNL       | Honolulu            |
| -9.5      | 41          | —         | Marquesas Islands   |
| -9        | 42          | ANC       | Anchorage           |
| -8        | 44          | LAX       | Los Angeles         |
| -7        | 46          | DEN       | Denver              |
| -6        | 48          | CHI       | Chicago             |
| -5        | 50          | NYC       | New York            |
| -4        | 52          | MAO       | Manaus              |
| -3.5      | 53          | —         | St. John's          |
| -3        | 54          | RIO       | Rio de Janeiro      |
| -2        | 56          | FEN       | Fernando de Noronha |
| -1        | 58          | PDL       | Azores              |

## Interchanging the home time and local time

### 1. Change the mode to [TME] or [LLI] and push the crown in to position 0.

### 2. Press and release both the lower right button (A) and upper right button (B) at the same time.

A confirmation tone sounds and the home time and local time interchange.

- Date and day-of-week indication follows the new home time after the interchange.

## Setting the summer time

### 1. Change the mode to [TME] or [LLI] and pull the crown out to position 2.

The function indication indicates summer time setting of the home time (SMT ON/OFF).

- When the mode is [UTC], you can only change summer time setting of the home time.

### 2. Press and release the lower right button (A).

|         |  |                                 |
|---------|--|---------------------------------|
| SMT ON  |  | Summer time is indicated.       |
| SMT OFF |  | The standard time is indicated. |

- Each time you press button (A), the summer time setting (SMT ON/OFF) changes alternately.

### 3. Press and release the upper right button (B).

The function indication indicates summer time setting of the local time (SMT ON/OFF).

- Each time you press button (B), the minute hand of setting target slightly moves and the target (home time/local time) of time zone setting changes alternately.

### 4. Press and release the lower right button (A) to change summer time setting of the local time.

### 5. Push the crown in to position 0 to finish the procedure.

The second hand returns to indicate the second.

## Checking and adjusting the leap second setting

- The leap second setting is adjusted automatically but it can be adjusted manually.

You can find a list of leap seconds at the homepage of IERS (INTERNATIONAL EARTH ROTATION & REFERENCE SYSTEMS SERVICE).  
[http://hpiers.obspm.fr/eop-pc/earthor/utc/TAI-UTC\\_tab.html](http://hpiers.obspm.fr/eop-pc/earthor/utc/TAI-UTC_tab.html)

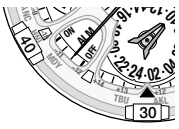
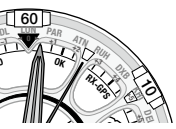
### 1. Change the mode to [SET] and push the crown in to position 2.

2.

The second hand stops.

### 2. Press and hold the upper right button (B) for 2 seconds or more.

Using the "0:00:00" position as the starting point, the minute and second hands indicate the leap second setting.

| When the leap second setting is "37 seconds"                                      | When the leap second setting is "-65 seconds"                                     |
|---|---|
|  |  |
| The hands point to "0 minute 37 seconds".   | The hands point to "1 minute 5 seconds".  |

### 3. Turn the crown to adjust the setting if the leap second is not correct.

- Adjustable range is from 0 to -90 seconds.

### 4. Push the crown in to position 0.

### 5. Change the mode to [TME] to finish the procedure.

## Adjusting the time and calendar manually

You can set the time and calendar of the home time manually.

- Execute world time setting beforehand following "Setting the world time manually".
- The time of the local time is corrected automatically following its time zone setting after setting the home time manually.

### 1. Change the mode to [SET] and push the crown in to position 2.

2.

The second hand stops.

### 2. Press and hold the lower right button (A) for 2 seconds or more.

The minute hand slightly moves and time and calendar become adjustable.

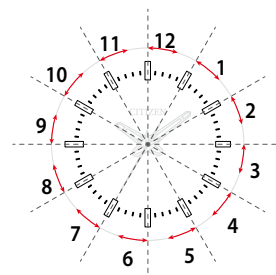
### 3. Press and release the lower right button (A) repeatedly to change the hand/indication to be corrected.

- Each time you press button (A), the target changes as follows:  
Hour and minute → date → year/month → day of week → (back to the top)
- The hands and indications slightly move when selected to show they become adjustable.

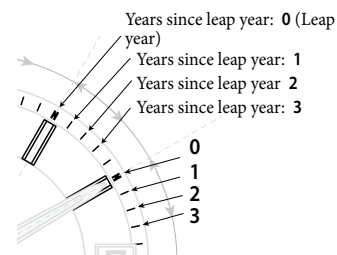
### 4. Rotate the crown to adjust the hand/indication.

- Hour, minute and date move synchronously. Take care the time set is AM or PM. Change of date indication shows it just became AM.
- Date indication changes to the next as the function indication rotates 5 times.
- When you rotate the crown quickly a few times, the hand/indication will move continuously. To stop the rapid movement, rotate the crown in either direction.
- Year and month are indicated with the second hand.

"Month" corresponds to one of the 12 zones shown in the figure below.  
Each number means month.



The year corresponds to the years since leap year and is indicated with the position of the second hand.



### 5. Repeat steps 3 and 4.

### 6. Push the crown in to position 0 in accordance with a reliable time source.

The second hand starts moving from 0 second.

### 7. Change the mode to [TME] to finish the procedure.



## Checking the reference position

1. **Change the mode to [CHR] and pull the crown out to position 2.**

The second hand and dual time indication point to 0 position and stop.

2. **Press and hold the lower right button (A).**

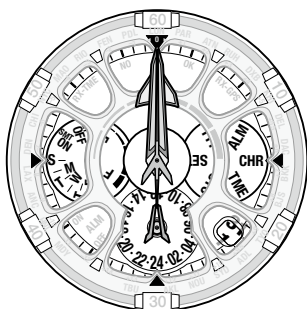
The hands and indication start to move to the current reference positions stored in memory.

- Release the button as the hands start to move.

3. **Check the reference position.**

Correct reference positions:

- **Hour, minute and second hands: 0 hour 00 minute 0 second**
- **Date indication: midway between "31" and "1"**
- **Function indication "S" (Sunday)**
- **Dual time indication: 0 hour 00 minute**



When the current reference position is different from the correct one, proceed to step 3 of "Correcting the reference position".

4. **Push the crown in to position 0.**
5. **Change the mode to [TME] to finish the procedure.**

## Correcting the reference position

1. **Change the mode to [CHR] and pull the crown out to position 2.**

The second hand and dual time indication point to 0 position and stop.

2. **Press and hold the lower right button (A).**

The hands and indication start to move to the current reference positions stored in memory.

- Release the button as the hands start to move.

3. **Press and release the lower right button (A).**

The function indication slightly moves and the indication and date indication become adjustable.

4. **Press and release the lower right button (A) repeatedly to change the hand/indication to be corrected.**

- Each time you press the button, the target changes as follows:  
Function indication/date indication → Dual time indication → Hour and minute hands → Second hand → (Back to the top)
- The hands slightly move when selected to show they become adjustable.

5. **Rotate the crown to adjust the hand/indication.**

When you rotate the crown quickly a few times, the hand/indication will move continuously. To stop the rapid movement, rotate the crown in either direction.

6. **Repeat steps 4 and 5.**

7. **Push the crown in to position 0.**

8. **Change the mode to [TME] to finish the procedure.**

## Resetting the watch — All Reset

1. **Change the mode to [CHR] and pull the crown out to position 2.**

2. **Press and hold buttons (A) and (B) at the same time for 4 seconds or more and release them.**

Alarm sounds as the buttons are released and the hands move to their current reference position.

| The setting values after All Reset |  |
|------------------------------------|--|
| Calendar                           | January of leap year (5-second position) |
| World time                         | Time zone (offset) 0 (LON), London       |
| Reception result                   | NO                                       |
| Summer time                        | OFF at all time zones                    |
| Alarm setting                      | OFF                                      |
| Alarm time                         | 0:00 AM                                  |
| Leap seconds                       | No change after All Reset                |
| Rollover number                    |  |

### After All Reset

After All Reset, adjust the reference position, set the time and calendar and execute alarm setting.

