

Please charge the watch fully before use by exposing it to light.

When the watch does not operate according to the instruction manual, it is insufficiently charged.

Charge the watch for at least 3 hours approximately 20 cm (8 in) away from a fluorescent or incandescent lamp (30 W) as a light source. When charging, do not place the watch too close to the light source to prevent the watch from becoming too hot.

* When charging the watch under direct sunlight, charge for at least 50 minutes.

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1. Features

This watch is a combination solar-powered watch that contains a solar cell in its face that drives the watch hands, race timer, chronograph, alarm, and numerous other functions by converting light energy into electrical energy. It is also equipped with convenient functions including a power save mode that reduces power consumption when light is not shining on the solar cell, UTC (Coordinated Universal Time) and a world timer indicating the time and dates of 30 major cities around the world.

2. Before Using the Watch

This watch is a solar-powered watch. Before using, allow light to shine onto the watch so that it is sufficiently charged.

In this watch a secondary battery is used to store electrical energy. This secondary battery is a clean energy battery that does not contain mercury or other toxic substances. Once fully charged, the watch will continue to run for a maximum of 4 years without additional charging (when in the power save 2 mode).

[Proper use of this watch]

To use this watch comfortably, make sure to recharge it before it stops running completely. There is no risk of overcharging the watch no matter how often it is recharged. (Overcharging Prevention Function).

It is recommended that the watch be recharged everyday.

3. Names of Components and Major Functions

Name/Mode	Time	Calendar	Race timer	Chronograph
1. Mode hand	TME	CAL	RACE	CHR
2. Hour hand	Always indicates "hours"			
3. Minute hand	Always indicates "minutes"			
4. Second hand	Always indicates "seconds"		Indicates the remaining race time (seconds) Indicates the auto-chronograph measured time display (seconds)	Indicates the chronograph measured time (seconds)
5. 24-hour hand	Always indicates "24-hour time" in conjunction with hours and minutes			
6. Function hand	Always stopped at 0-position (standard position)		Indicates the remaining race time (minutes) Indicates the auto-chronograph measured time display (minutes)	Indicates the chronograph measured time (minutes)
7. Digital display 1	Hours, minutes, seconds	Month, date, day	Indicates the remaining race time (minutes, seconds) Indicates the auto-chronograph measured time display (minutes, seconds)	Indicates the chronograph measured time (minutes, seconds, 1/100 seconds)
8. Digital display 2	City name, SMT (when set to daylight savings time)		Race timer set time (minutes)	Chronograph measured time (hours)

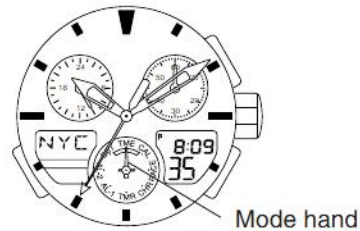
Timer	Alarm-1	Alarm-2	Zone setting
TMR	AL-1	AL-2	SET
Always indicates "hours"			
Always indicates "minutes"			
Always indicates "seconds"			
Always indicates "24-hour time" in conjunction with hours and minutes			
Always stopped at 0-position (standard position)			
Indicates the timer's remaining time (minutes, seconds)	Hours, minutes, alarm (ON/OFF)		City name (SET/OFF)
Timer set time (minutes)	City name		

Name/ Mode	Crown position	Time	Calendar	Race timer	Chronograph
9. Crown	Normal position	Mode switching			
	1st click	Time correction	Calendar correction	Race Timer set time correction	Adjust to 0 position
A. Button (A)	Normal position	Changing between cities		Start/stop	Start/stop
	1st click	Switching location to be corrected		-----	Switching location to be corrected
B. Button (B)	Normal position	Changing between cities		Return flight / reset	Split/reset
	1st click	Switching SMT (ON/OFF) Switching between 'seconds' correction and '24-hour time'	-----	-----	-----
C. Button (C)	Normal position	Hand evacuation			
	1st click	Hand evacuation			

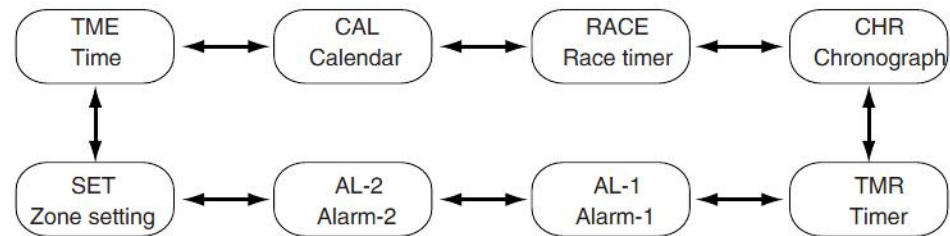
Timer	Alarm-1	Alarm-2	Zone setting
Mode switching			
Timer set time correction	Alarm time correction		Changing city name
Start/stop	Changing between cities		Changing city name
-----	Switching location to be corrected		-----
Return flight / reset	Changing between cities		Changing city name
-----	Switching alarm (ON/OF)		Changing city name (SET/OFF)
Hand evacuation			
Hand evacuation			

4. Switching Modes (Display Functions)

In addition to the time and date modes, this watch is also equipped with a race timer, a chronograph and a timer mode and alarm-1 and 2 modes. Switch modes by turning the crown. Check the current mode using the mode hand.



< Switching the mode >

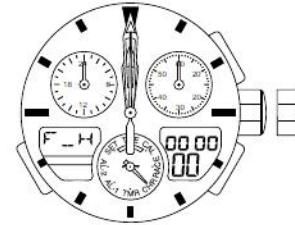


5. Checking 0-Position of Each Hand

Before using this watch perform the following procedure to check that the 0-position (standard position of each hand) is set correctly to ensure that the functions of the watch operate properly.

< 0-Position Check >

1. While in the normal position, turn the crown to set the mode hand to the chronograph [CHR] mode.
 2. Pull the crown out to the first click (0-position correction position)
 - The second hand, minute hand, hour hand, 24-hour hand and function hand rapidly advance to the 0-position (12 o'clock position).
- Note:**
- When each hand is not at the 0-position, perform the "0-position correction" procedure. If this 0-position is out of alignment, each hand will not indicate the correct position.



<0-Position Correction (Setting to the Watch Standard Position)>

... Setting when the 0-position is out of alignment

When setting the 0-position of each hand, always make sure to turn the crown to the right (clockwise) to set each hand to its 0-position in the clockwise direction.

1. Turn the crown while in the normal position to set the mode hand to the chronograph [CHR] mode.
2. Pull the crown out to the first click (0-position correction position).
 - The second hand, minute hand, hour hand and 24-hour hand rapidly advance to the position stored in the memory.
 - "F-H" lights in digital display 2 indicating that the watch is in the function hand correction state.
3. Turning the crown to the right (clockwise) allows corrections to be made in the positive direction. Turning the crown continuously allows corrections to be made continuously. Turn the crown to the left or right to stop.
4. Pressing button (A) switches the correction location between "HR" (24-hour hand, hour hand, minute hand), "SEC" (second hand) and "F-H" (function hand) each time the button is pressed.
5. Turn the crown to the right (clockwise) to align each hand at the 0-position. Although correction can be made in the negative direction by turning the crown backwards (counter-clockwise) always make sure to set the 0-position

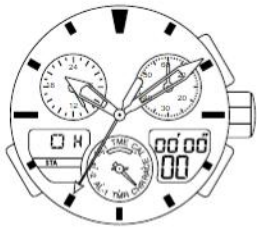
by turning the crown in the right direction (clockwise) to ensure that the standard position is set correctly.

- The 24-hour hand is corrected in conjunction with the hour hand and the minute hand.
6. After performing correction, return the crown to the normal position.
 - After correcting the 0-position of each hand, reset the time, calendar, and other modes before using the watch.

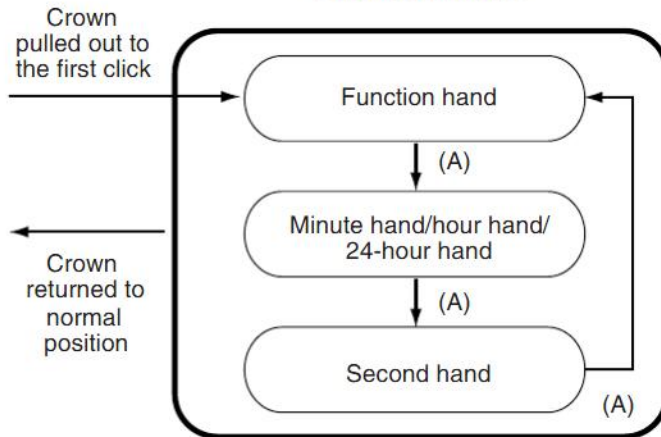
Note:

- None of the buttons on the watch operate during movement of each hand. Operate the buttons only after the hands have stopped moving.

<Normal Chronograph Display>



<0-Position (Standard Position) Correction State>



6. Accessing Times and Dates of Major Cities around the World

The time or date of major cities pre-registered in this watch can be easily accessed by pressing the buttons.

<Access Procedure>

1. Turn the crown to set the mode hand to the [TME] time or [CAL] calendar mode.
2. When button (A) is pressed, the times or dates of major cities in the scrolling UP direction are displayed each time the button is pressed.
3. When button (B) is pressed, the times or dates of major cities in the scrolling DOWN direction are displayed each time the button is pressed.
 - Pressing button (A) or (B) continuously causes scrolling to advance rapidly.

<Cities and UTC Time Differences Pre-registered in this Watch>

Scrolling DOWN
↑
Scrolling UP
↓

Display on watch	City name	Time difference	Daylight savings time	Display on watch	City name	Time difference	Daylight savings time
UTC	Universal time constant	±0	---	TYO	Tokyo	+9	×
LON	London	±0	○	SYD	Sydney	+10	○
PAR	Paris	+1	○	NOU	Noumea	+11	×
ROM	Rome	+1	○	AKL	Auckland	+12	○
CAI	Cairo	+2	○	HNL	Honolulu	-10	×
IST	Istanbul	+2	○	ANC	Anchorage	-9	○
MOW	Moscow	+3	○	LAX	Los Angeles	-8	○
KWI	Kuwait	+3	×	DEN	Denver	-7	○
DXB	Dubai	+4	×	CHI	Chicago	-6	○
KHI	Karachi	+5	×	MEX	Mexico City	-6	×
DEL	New Delhi	+5.5	×	NYC	New York	-5	○
DAC	Dacca	+6	×	YUL	Montreal	-5	○
BKK	Bangkok	+7	×	CCS	Caracas	-4	×
SIN	Singapore	+8	×	RIO	Rio de Janeiro	-3	○
HKG	Hong Kong	+8	×	BUE	Buenos Aires	-3	×
PEK	Beijing	+8	×				

* Cities (regions) in which daylight savings time is used, are indicated with the ○ mark, while those in which it is not, are indicated with an ×.

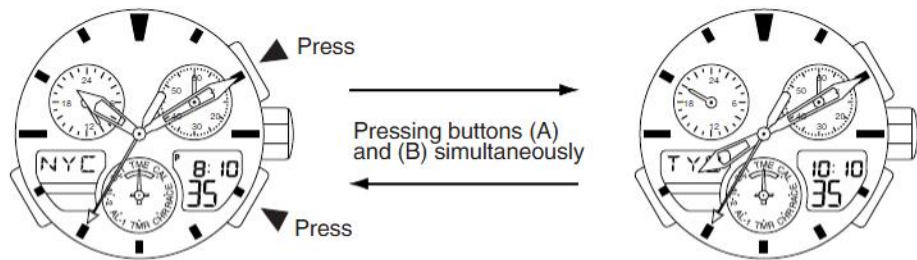
* The time difference and use of daylight savings time of each city are subject to change by each individual country.

7. Switching between Analog Time and Digital Time

This watch is able to switch between analog time display and digital time display.

<Switching Procedure>

1. Turn the crown to set the mode hand to the time [TME] mode.
2. Press buttons (A) and (B) simultaneously.
3. After a confirmation tone sounds, the watch switches the time of the city displayed by analog display and the time of the city displayed by digital display.
 - If buttons (A) and (B) are simultaneously pressed when in the calendar [CAL] mode, the watch switches the date of the city displayed by analog display and the date of the city displayed by digital display (the times are switched at this time as well).



Analog time: 10:10 AM (Tokyo: TYO)
 Digital time: 8:10 PM (New York: NYC)

Analog time: 8:10 PM (New York: NYC)
 Digital time: 10:10 AM (Tokyo: TYO)

8. Hand Evacuation Function

(When reading the time is difficult because the analog hands cover the digital display)

The hand evacuation function allows the hour hand and the minute hand to be evacuated to the 12 o'clock position.

<Hand Evacuation Method>

1. Pressing button (C) for at least 2 seconds moves the hour hand and the minute hand to the 12 o'clock position.



<Canceling Hand Evacuation>

1. Pressing button (C) moves the hour hand and the minute hand back to the position for normal time indication.

9. Setting the Time (Time is corrected by digital display)

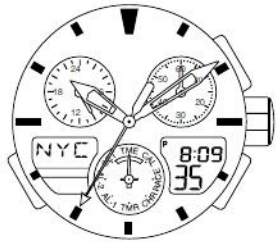
When digital time is corrected, the second, minute, hour, and 24 hour hands of the analog time are corrected automatically in conjunction with digital time. After correcting the digital time, when the crown is returned to the normal position, the second, minute, hour, and 24 hour hands rapidly advance to the present time in conjunction with the digital time set.

1. Turn the crown and set the mode hand to the time [TME] mode.
2. Press either button (A) or button (B) to access the city to be corrected.
3. When the crown is pulled out to the first click (time setting position), the watch enters the time correction state.
 - The second hand rapidly advances to and stops at the 12 o'clock position.
 - The minute, hour, and 24 hour hands stop at the time when pulling out the crown to the first click.
4. When button (A) is pressed, the location to be corrected changes each time it is pressed. Select the location to be corrected. (The location that is flashing is the location that can be corrected.)
 - When button (B) is pressed in the [SMT] daylight savings time correction state, daylight savings time can be set (ON) or canceled (OF).
 - "Seconds" return to zero when button (B) is pressed in the "seconds"

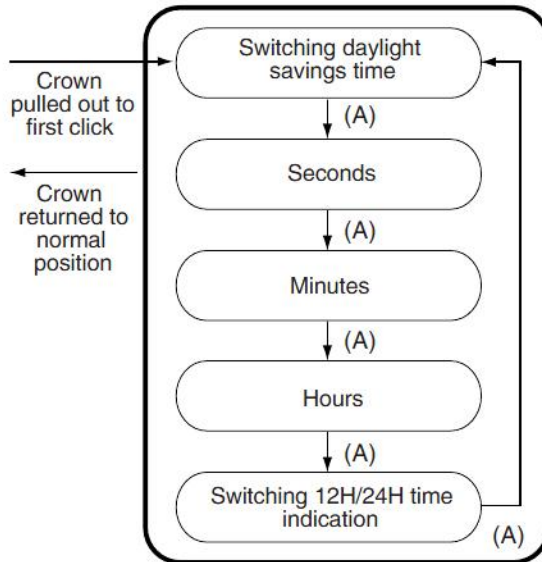
correction state.

- When the crown is turned to the right (clockwise) in the "hour" or "minute" correction states, correction is made in the positive direction. Turning the crown continuously allows "hours" or "minutes" to be corrected continuously. When turning the crown to the left (counter-clockwise), correction can be made in the negative direction.
 - Switching "12H/24H time" is performed by pressing button (B).
5. After corrections have been completed, return the crown to the normal position.

<Normal Time Display>



<Time Correction State>



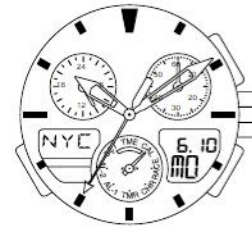
Notes:

1. Daylight savings time can be set for each city.
2. When the time is set for any one city, the times of other cities, including UTC time, are corrected automatically.
3. When changing the time, the crown and buttons do not respond even if operated. Ensure that the required operation is performed correctly by first checking that the time has changed.

10. Setting the Date (Date is corrected by digital display)

1. Turn the crown and set the mode hand to the calendar [CAL] mode.
2. Press either button (A) or button (B) to access the city to be corrected.
3. When the crown is pulled out to the first click (date setting position), the watch enters the date correction state.
4. When button (A) is pressed, the location to be corrected changes each time it is pressed. Select the location to be corrected by making it flash.
 - When the crown is turned to the right (clockwise), correction is made in the positive direction. When the crown is turned to the left (counter-clockwise) correction is made in the negative direction. Turning the crown continuously allows corrections to be made rapidly.
5. After corrections have been completed, return the crown to the normal position.

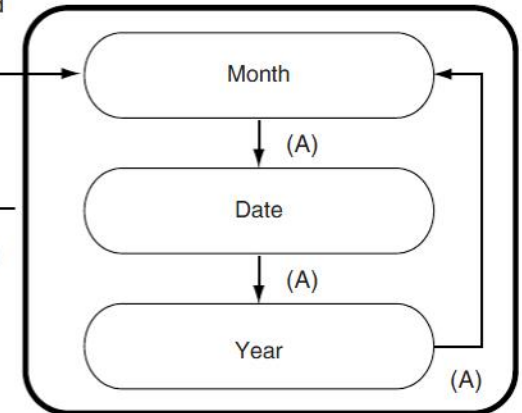
<Normal Date Display>



Crown pulled
out to first
click

Crown
returned to
normal
position

<Date Correction State>



Notes:

1. When the date is set for any one city, the dates of other cities, including UTC time, are corrected automatically.
2. The year can be set from 2001 to 2099.
3. The day is corrected automatically when the year, month and date are set.
4. Since this watch is equipped with an auto-calendar function, it is not necessary to correct the date at the end of the month.
5. When the date has been set to a non-existent date, (for example February 30) the watch automatically displays the 1st day of the following month when the watch is returned to the normal display.

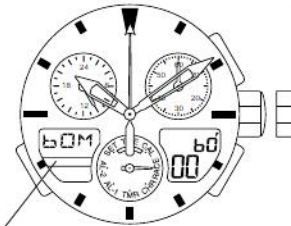
11. Using the Race timer

The race timer is able to set the time for 5 minute intervals for times between 60 and 10 minutes, and to 6, 5, 4, 3, and 2 minutes and 1 minute.

<Setting the Race Timer>

1. Turn the crown and set the mode hand to the [RACE] race timer.
2. When the crown is pulled out to the first click (race timer setting position), the watch enters the minute correction state.
 - The Race Timer Setting Time (minutes) flashes in digital display-2.

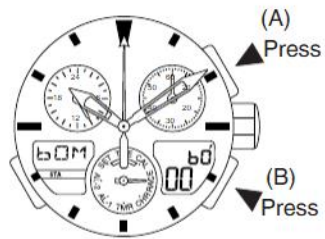
<Race Timer Set Display>



Race timer 'minutes' flashes.

3. Turn the crown to set the Race Timer Setting (minutes).
 - When the crown is turned to the right, correction is made in the positive direction. When the crown is turned to the left correction is made in the negative direction.
 - The function hand moves automatically in conjunction with the Race Timer Setting Time (minutes).
4. After corrections have been completed, return the crown to the normal position.

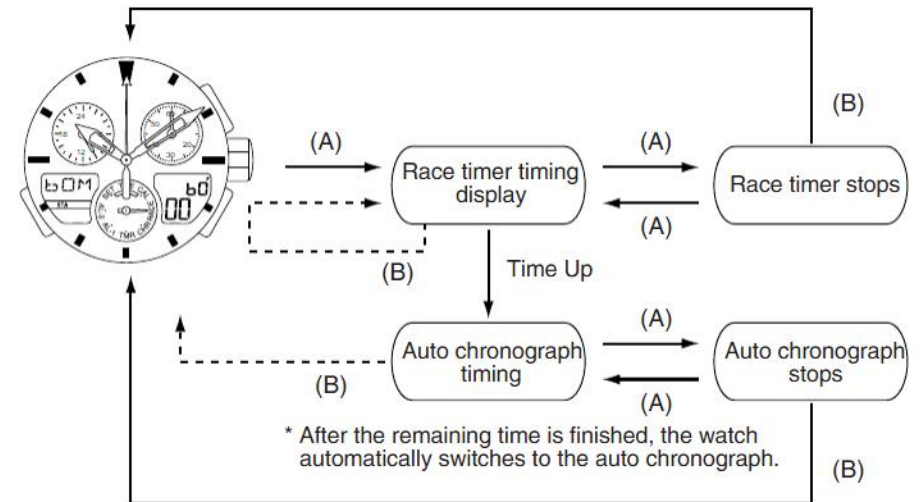
<Race Timer Initial Setting Display>



- When pressing buttons, the vibration confirmation tone sounds to confirm operation.
 - After starting, a warning tone is sounded when 11, 10, 6, 5, 4, 3 or 2 minutes or 1 minute remain or when 50, 40, 30, 20, 10, 5, 4, 3 or 2 seconds or 1 second remain. However, when 11, 10, 6, 5, 4, 3 or 2 minutes or 1 minute are set, the warning signal for the remaining time in question does not sound.
4. When timing of the set time is finished, the Time Up tone sounds, while simultaneously the auto chronograph starts operating.

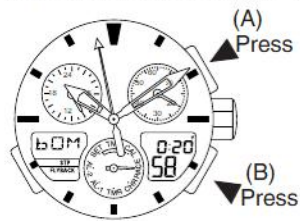
<Timing Using the Race Timer>

1. When pressing button (A), the race timer starts counting down from the time set while the second hand starts moving counter clockwise.
2. When pressing button (A) during the countdown, the race timer stops. When pressing button (A) once more while the race timer is stopped, the race timer starts counting again.
 - When pressing button (B) during the countdown, the race timer is initialized and starts counting down again from the beginning.
3. When pressing button (B) while the race timer is stopped, the race timer returns to the initial setting time.



<Using Auto Chronograph Measurement>

When the race timer measurement is finished, upon finishing simultaneously it changes to the auto chronograph that starts counting down automatically. The auto chronograph measures to a maximum of 23 hours, 59 minutes, 59 seconds in 1 second units. After timing is finished, the chronograph automatically returns to the race timer initial setting display.

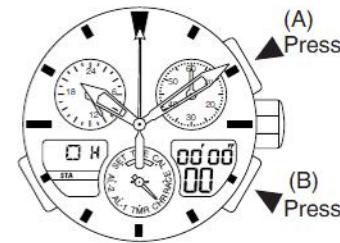


1. Pressing button (A) during measurement repeatedly starts and stops the auto chronograph each time it is pressed.
 - When starting the auto chronograph, the second hand starts moving clockwise in conjunction.
2. Pressing button (B) during measurement of the auto chronograph returns the auto chronograph to the race timer initial display.
3. Pressing button (B) while the chronograph is stopped returns the chronograph to the race timer initial setting display.
 - The second hand rapidly advances to the 12 o'clock position and then stops.
 - The function hand rapidly advances to the race timer initial setting position and then stops.

12. Using the Chronograph

The chronograph is able to measure and display time to a maximum of 23 hours, 59 minutes, 59.99 seconds in 1/100th second units. After 24 hours have elapsed, the chronograph automatically returns to the chronograph reset display.

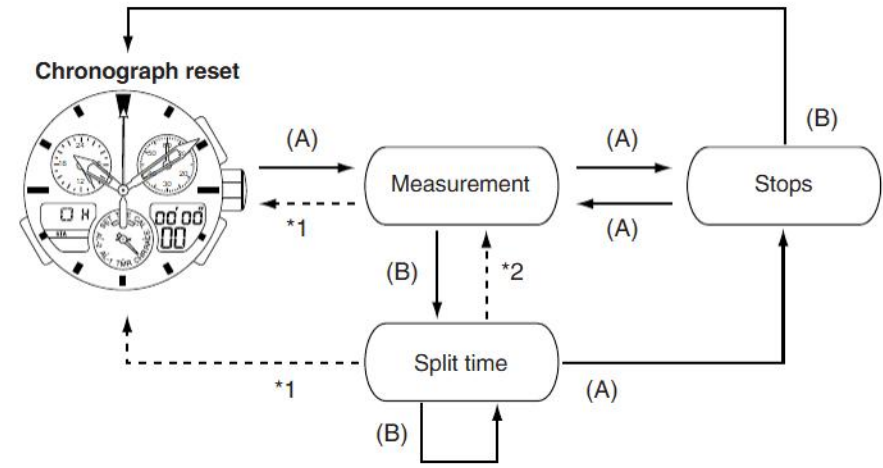
<Normal Chronograph Display>



<Chronograph Measurement>

1. Turn the crown to set the mode hand to the chronograph [CHR] mode.
 - The second hand rapidly advances to the 12 o'clock position and stops.
2. Pressing button (A) repeatedly starts and stops the chronograph each time it is pressed.
 - When starting the chronograph, the second hand starts moving clockwise in conjunction.
3. Split time is displayed for 10 seconds when button (B) is pressed during chronograph measurement.

- The 'SPL' mark flashes in digital display-1 during split time display. In addition the second hand also stops moving.
4. Pressing button (B) while the chronograph is stopped, returns the chronograph to the chronograph reset display.
- The second and function hand (used as the minute hand for the chronograph) rapidly advance to and stops at the 12 o'clock position.

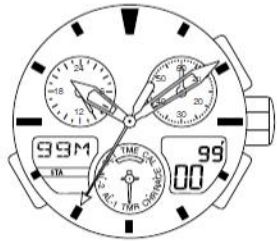


*1: Returns automatically after timing for 24 hours
 *2: Returns automatically after 10 seconds

13. Using the Timer

The timer can be set to a maximum of 99 minutes in 1 minute units. When the set time has elapsed, a tone indicating that the set time is up, sounds for about 5 seconds, after which the timer returns to the timer initial setting display.

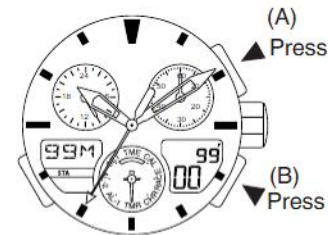
<Timer Initial Setting Display>



<Setting the Timer>

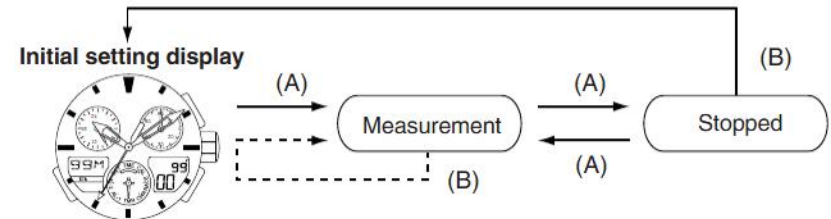
1. Turn the crown to set the mode hand to the timer [TMR] mode.
2. Pull out the crown to the first click (timer setting position) to enter the "minutes" correction state.
 - "Timer Setting Time (Minutes)" flashes in digital display-2.
3. Turn the crown to set the "minutes" timer setting time.
 - When turning the crown to the right (clockwise), correction can be made in the positive direction. When turning the crown to the left (counter clockwise), correction can be made in the negative direction.
4. After setting, return the crown to the normal position.

<Timer Initial Setting Display>



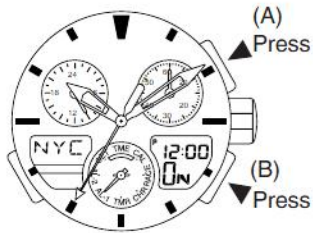
<Timing using the Timer>

1. When pressing button (A) the timer starts counting down from the time set.
2. Pressing button (A) again during measurement stops the timer and pressing button (A) once more while the timer is stopped, restarts the timer.
 - Pressing button (B) during timer measurement returns the watch to the timer initial setting display and resumes countdown from the beginning.
3. Pressing button (B) when the timer is stopped returns the watch to the timer initial setting display.
 - * When pressing the button, the operation confirmation tone sounds.



14. Using the Alarm

The alarm setting procedure and other procedures for alarm use are the same for Alarm 1 and 2. Only the tone that sounds is different. Once a day, the alarm sounds for 15 seconds when the set time is reached. When the alarm is sounding, it can be turned off by pressing button (A), (B) or (C).



<Setting the Alarm Time>

1. Turn the crown and set the mode hand to either the Alarm 1 or 2 [AL-1] or [AL-2] mode.
2. Press either button (A) or button (B) to access the city to be corrected.
3. When the crown is pulled out to the first click (alarm time setting position), the watch enters the alarm correction state.

4. When button (A) is pressed, the location to be corrected changes each time it is pressed. Select the location to be corrected so that it flashes.
 - The alarm can be set (ON) or canceled (OF) by pressing button (B) when the watch is in the alarm ON/OFF correction state.
 - When the crown is turned to the right (clockwise) in the “hours” or “minutes”

correction state, correction is made in the positive direction. When the crown is turned to the left (counter-clockwise), correction is made in the negative direction.

- Turning the crown continuously allows corrections to be made rapidly.
5. After corrections have been completed, return the crown to the normal position.

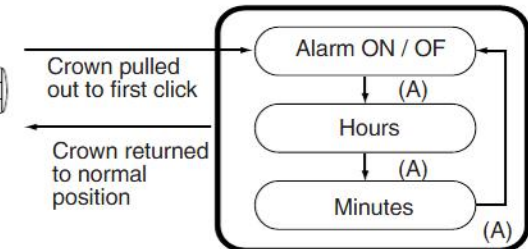
Note:

- When the time mode is set to the 12-hour time display, the alarm time also uses a 12-hour time display. Pay attention to AM and PM when setting the alarm time.

<Normal Alarm Display>



<Alarm Correction State>



<Switching Alarm ON and OF>

1. The alarm can be switched ON and OF by pulling out the crown to the first click when the alarm mode is on.
2. Pressing button (B) switches the alarm ON and OF each time it is pressed.
3. Return the crown to the normal position after the alarm has been set to ON or OF.

<Alarm Monitor>

1. Pressing buttons (A) and (B) simultaneously during the normal alarm display causes the alarm to sound for confirmation for as long as they are pressed.

15. Using Zone Setting

The zone setting function enables only those cities for which 'SET' has been selected to be easily accessed (displayed) in each mode.



<Using Zone Setting>

1. Turn the crown while in the normal position and set the mode hand to the zone setting [SET] mode.
2. The city can be changed by pulling out the crown to the first click (for changing cities between SET and OFF and for setting the location for switching to daylight savings time).
3. Turn the crown to access the city to be set.
 - Turning the crown continuously causes the cities to advance rapidly.
4. Press button (B) to set the city.
5. After setting, return the crown to the normal position.

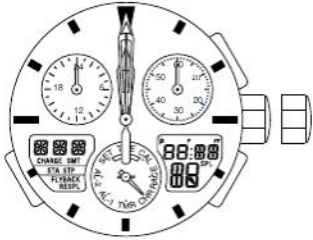
<Confirming Set Cities>

1. When button (A) or button (B) is pressed when the watch is in the zone setting [SET] mode (with the crown in the normal position), the city name and SET or OFF are displayed each time the button is pressed.
 - Only those cities for which SET is displayed can be accessed from each mode.

16. About All-Reset

When this watch indicates an abnormal display or does not function properly (no display, alarm continues to sound, etc.) as a result of being subjected to the effects of static electricity or strong impact and so forth, perform the all-reset procedure described below.

When performing the all-reset procedure, first make sure that the watch is sufficiently charged.



<All-Reset Procedure>

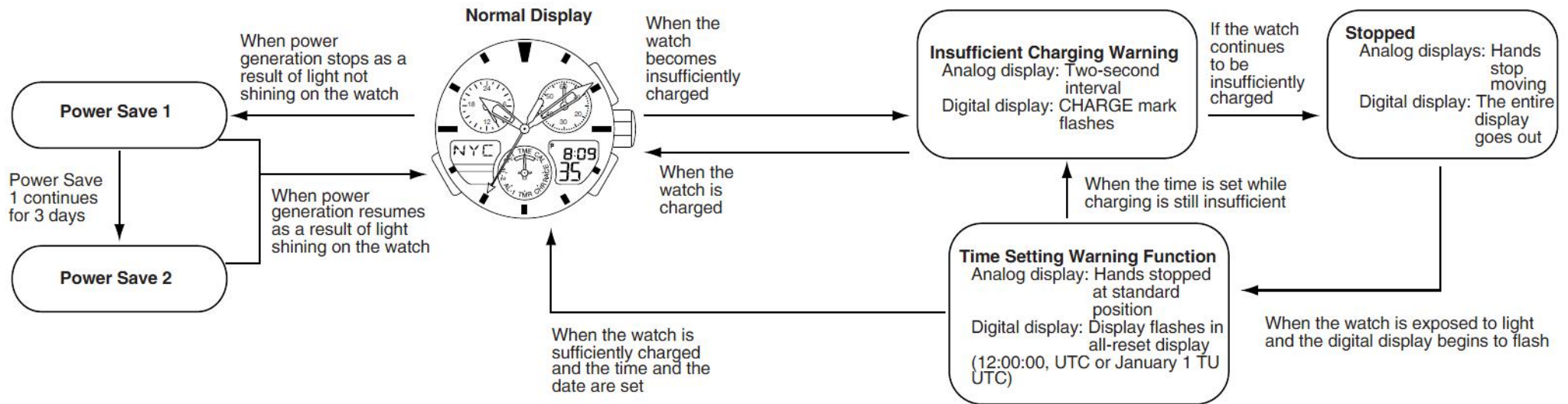
1. Turn the crown to set the mode hand to the chronograph [CHR] mode.
2. Pull out the crown to the first click (0-position correction mode).
 - The second hand, minute hand, hour hand, 24-hour hand, and function hand rapidly advance to the 0-position stored in memory.
3. Press buttons (A), (B), and (C) simultaneously and then release.

- All segments of the digital display are shown when any of the buttons is released.
4. This fully lit display is canceled when the crown is returned to the normal position.
 - After canceling, a confirmation tone is sounded after which each of the hands perform a demonstration movement in the order of the second hand, function hand, and minute hand, to indicate that the all-reset procedure is finished.
 - After the demonstration movement, pull the crown out to the first click to switch the watch to the 0-position (base position) setting state. Always make sure to set the 0-position (standard position) for the hour hand, minute hand, second hand, 24-hour hand and function hand while referring to “5. Checking 0-Position of Each Hand <0-Position Correction>”.

Note:

- After setting the 0 position (base position) for each hand, correctly reset the time, calendar and other modes before using the watch.

17. Functions Unique to Solar-Powered Watches



[Insufficient Charging Warning Function]

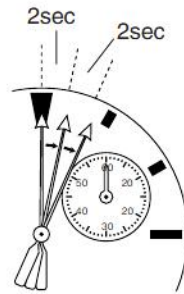
Analog Display

Regardless of the display (mode) of the watch at the time, when the watch becomes insufficiently charged, the watch changes to the time display and the second hand begins to move at two-second interval movement. Although the 24 hour hand, hour hand and minute hand continue to keep the correct time, the watch stops after about 1.5 days have elapsed after the insufficient charging warning function is activated. When this happens, charge the watch by exposing to light so that it returns to one-second interval movement.

However, after the watch has stopped due to being insufficiently charged, it will not return to the normal display unless the time and date are set during the Insufficient Charging Warning state after the watch is sufficiently charged by exposing it to light.

Digital Display

“CHARGE” flashes on digital display 2 in all modes.



<Digital Display in Each Mode>

- The watch displays the normal time display regardless of the position of the crown (pulled out to the first click) in each mode except for the calendar mode.
- When the watch is in the calendar mode, the normal date display is displayed regardless of the position of the crown.

Notes:

- Crown operations do not function (except for mode switching (with the crown in the normal position)) in any of the modes.
- Button operations do not function, except for changing the city name (UP/DOWN), in any of the modes.
- The alarm tone does not sound even if it is set.
- The chronograph is interrupted and reset even if measurement is in progress.
- Timing by the race timer is immediately interrupted even if timing is in progress.
- **In the case the watch switches to the insufficient charging warning function as a result of being insufficiently charged, it takes a minimum of 30 minutes for the watch to return to the normal operating state even if sufficiently exposed to light.**

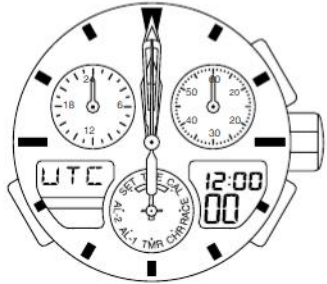
<When the insufficient Charging Warning Function is Canceled>

When the insufficient charging warning function is canceled as a result of exposing the watch to light and a sufficient charge, the watch returns to the mode indicated by the mode hand.

[Time Setting Warning Function]

Analog Display

The watch stops when insufficient charging continues for about 1.5 days. When the watch is charged by exposing to light after having stopped due to insufficient charging, each hand is rapidly advanced to the base position and stops. Each hand remains stopped until the time is reset.



Digital Display

The all-reset display (12 hours, 00 minutes, 00 seconds, UTC or January 1 TU) flashes in the time or calendar mode.

<Canceling the Time Setting Warning Function>

1. Set the mode hand to the time mode and pull the crown out to the first click to set the time. Flashing of the digital display is only canceled in the time mode. After correcting the time, return the crown to the normal position.
2. Set the mode hand to the calendar mode and pull the crown out to the first click to set the date. Flashing of the digital display is canceled in the calendar mode.
3. After correcting the date, return the crown to the normal position.

Note:

- The time setting warning function will not be canceled unless the time is first set followed by setting the date.

[Overcharging Prevention Function]

The overcharging prevention function is activated when the secondary battery is fully charged so that it is not charged further. This allows the user to charge the watch without any risk of overcharging.

[Power Save 1]

When power is not generated as a result of the solar cell not being exposed to light, the second hand stops when it reaches the 12 o'clock position and the watch automatically enters the power save state to inhibit power consumption of the secondary battery.

Analog Display

- The second hand stops at the standard position (12:00).
- Other hands continue to keep the correct time.

Digital Display

- In conjunction with the analog second hand stopping at the 12 o'clock position, the entire digital display goes out. However, the race timer, alarm, chronograph and other functions continue to measure time internally even though there is no display.

<Canceling Power Save 1 >

Power Save 1 is canceled when power generation resumes as a result of exposing the solar cell to light.

- The second hand rapidly advances to the current time and begins one-second interval movement.
- The digital display reappears simultaneous to resumption of power generation.

Note:

- During the time the secondary battery is fully charged and the overcharging prevention function is activated, the power save function is not activated even if power generation is interrupted as a result of the solar cell not being exposed to light. In addition, the power save function is similarly not activated when the solar cell is exposed to intense light and temporarily becomes fully charged.

[Power Save 2]

When the watch reaches the first 12:00 AM position (when the 24 hour hand, hour hand and minute hand all reach the standard position) after the Power Save 1 state has continued for 3 days, it enters the Power Save 2 state.

Analog Display

- The 24 hour hand, hour hand, minute hand, second hand and function hand stop at the standard position (12:00).

Digital Display

- The digital display remains completely out in continuation from the Power Save 1 state.

Notes:

- Crown and button operations do not function in any mode.
- The alarm tone does not sound even if it is set.

<Canceling Power Save 2>

Similar to Power Save 1, Power Save 2 is canceled when power generation resumes as a result of exposing the solar cell to light.

- Each hand rapidly advances to the current time and begins to move.
- The digital display reappears simultaneous to resumption of power generation. However, the chronograph returns to the reset chronograph reset display and the race timer and timer switch to the initial setting display.

18. General Reference for Charging Times

The time required for recharging varies according to the model of the watch (color of the dial, etc.). The following times are shown below to serve only as a reference.

* Recharging time refers to the amount of time the watch is continuously exposed to light.

Illuminance (lx)	Environment	Charging time		
		Charging time for 1 day of operation	Charging time from the stopped state to one-second interval movements	Charging time from the stopped state to fully charged
500	Inside an ordinary office	2.5 hours	24 hours	275 hours
1,000	60-70 cm under fluorescent light (30 W)	1 hour 20 minutes	12 hours	132 hours
3,000	20 cm under fluorescent light (30 W)	22 minutes	4.5 hours	42 hours
10,000	Outdoors cloudy weather	7 minutes	2 hours	13.5 hours
100,000	Outdoors, summer, under direct sunlight	4 minutes	1 hour 10 minutes	7 hours

Full recharging time: Time required for recharging the watch from the stopped state to the fully charged state.

Charging time for 1 day of operation: Time required for recharging the watch to run for 1 day at one-second interval movement.

19. Notes Regarding Handling of this Watch

<Try to keep the watch charged at all times.>

- Please note that if you routinely wear long sleeves, the watch can easily become insufficiently charged as a result of it being concealed and unable to be exposed to light.
- When you take the watch off, try to place it in as bright a location as possible to ensure that it always keeps the correct time.

Notes: Charging Precautions

- Avoid recharging at high temperatures (over about 60°C / 140°F) since this may result in damage to the watch as a result of reaching excessively high temperatures.
Examples: Charging the watch in close proximity to an incandescent lamp, halogen lamp or other light source that can easily reach high temperatures, charging the watch in a location that reaches high temperatures such as on a car dashboard.
- When charging the watch with an incandescent lamp, always make sure the watch is at least 50 cm (20 in.) away from the lamp so that it does not reach excessively high temperatures during charging.

20. Precautions






CAUTION: Water-resistance performance

There are several types of water-resistant watches, as shown in the following table.

The unit "bar" is roughly equal to 1 atmosphere.

* WATER RESIST(ANT) xx bar may also be indicated as W.R. xx bar.

For correct use within the design limits of the watch, confirm the level of water-resistance of your watch, as indicated on the dial and case, and consult the table.

Indication		Specification	Examples of use				
Dial	Case (Case back)						
WATER RESIST or no indication	WATER RESIST(ANT)	Water-resistant to 3 atmospheres	Minor exposure to water (washing face, rain, etc.)	Moderate exposure to water (washing, kitchen work, swimming, etc.)	Marine sports (skin diving)	Scuba diving (with air tank)	Operation of the crown or button with moisture visible
WR 50 or WATER RESIST 50	WATER RESIST(ANT) 5 bar or WATER RESIST(ANT)	Water-resistant to 5 atmospheres	OK	NO	NO	NO	NO
WR 100/200 or WATER RESIST 100/200	WATER RESIST(ANT) 10bar/20 bar or WATER RESIST(ANT)	Water-resistant to 10 / 20 atmospheres	OK	OK	OK	NO	NO

- Water-resistance for daily use (to 3 atmospheres): This type of watch is water-resistant to minor exposure to water. For example, you may wear the watch while washing your face; however, it is not designed for use underwater.
- Upgraded water-resistance for daily use (to 5 atmospheres): This type of watch is water-resistant to moderate exposure to water. You may wear the watch while swimming; however, it is not designed for use while skin diving.
- Upgraded water-resistance for daily use (to 10/20 atmospheres): This type of watch may be used for skin diving; however, it is not designed for scuba or saturated diving using helium gas.

CAUTION

- Do NOT operate the crown or button with wet fingers or when the watch is wet. Water may enter the watch and compromise water-resistance.
- If the watch is used in seawater, rinse with fresh water afterward and wipe with a dry cloth.

- If moisture has entered the watch, or if the inside of the crystal is fogged up and does not become clear within a day, immediately take the watch to your dealer or Citizen Service Center for repair. Leaving the watch in such a state will allow corrosion to form inside.
- If seawater enters the watch, place the watch in a box or plastic bag and immediately take it in for repair. Otherwise, pressure inside the watch will increase, and parts (crystal, crown, buttons, etc.) may come off.

CAUTION: Keep your watch clean.

- Dust and dirt tend to be deposited in gaps in the back of the case or band. Deposited dust and dirt may cause corrosion and soil your clothing. Clean the watch occasionally.

Cleaning the Watch

- Use a soft cloth to wipe off dirt, perspiration and water from the case and crystal.
- Use a soft, dry cloth to wipe off perspiration and dirt from the leather band.
- To clean a metal, plastic, or rubber watchband, wash away dirt with mild soap and water. Use a soft brush to remove dust and dirt jammed in the gaps in the

metal band. If your watch is not water-resistant, take it to your dealer.

NOTE: Avoid using solvents (thinner, benzine, etc.), as they may mar the finish.

CAUTION: Operating environment

- Use the watch within the operating-temperature range specified in the instruction manual.

Using the watch where temperatures are outside the specified range, may result in deterioration of functions or even stoppage of the watch.

- Do NOT use the watch in places where it is exposed to high temperature, such as in a sauna.
Doing so may result in a skin burn.
- Do NOT leave the watch in a place where it is exposed to high temperature, such as the glove compartment or dash-board of a car.
Doing so may result in deterioration of the watch, such as deformation of plastic parts.
- Do NOT place the watch close to a magnet.
Timekeeping will become inaccurate if you place the watch close to magnetic health equipment such as a magnetic necklace or a magnetic latch of a refrigerator door or handbag clasp or the earphone of a mobile phone. If this

has occurred, move the watch away from the magnet and reset the time.

- Do NOT place the watch close to household appliances that generate static electricity.
Timekeeping may become inaccurate if the watch is exposed to strong static electricity, such as is emitted from a TV screen.
- Do NOT subject the watch to a strong shock such as dropping it onto a hard floor.
- Avoid using the watch in an environment where it may be exposed to chemicals or corrosive gases.
If solvents, such as thinner and benzine, or substances containing such solvents come in contact with the watch, discoloration, melting, cracking, etc. may result. If the watch comes in contact with mercury used in thermometers, the case, band or other parts may become discolored.

21. Specifications

1. Model No.: C660

2. Type: Combination solar-powered watch

3. Accuracy: Within ± 15 seconds per month (when worn at normal temperatures of $+5^{\circ}\text{C}$ to $+35^{\circ}\text{C}$ (41°F to 95°F))

4. Operating Temperature Range: Watch operating temperature range: 0°C to $+55^{\circ}\text{C}$ (32°F to 131°F)

5. Display Functions:

Analog: Time: Seconds, minutes, hours, 24 hours, function, mode

Digital: * Time: Seconds, minutes, hours, city name, daylight savings time

* Calendar: Month, date, day, city name

* Race timer: Race timer remaining minutes, race timer remaining seconds, set minutes (race timer setting range: 60 – 10 minutes with 5 minute intervals and 6, 5, 4, 3, 2, and 1 minute settings)

* Chronograph: Chronograph hours, chronograph minutes, chronograph seconds, chronograph 1/1 00 seconds, SPL, 24 hour measurement

* Timer: Timer remaining minutes, timer remaining seconds, set minutes (timer setting range: 99 minutes to 1 minute in 1 minute units)

* Alarm 1: Hours, minutes, city name, ON/OFF

* Alarm 2: Hours, minutes, city name, ON/OFF

* Zone setting: Display setting (SET) and cancelation (OFF) for each city

6. Additional Functions

* Switching between main time (analog) and sub-time (digital)

* Hands evacuation function (moving the minute and hour hands to the 12 o'clock position)

* Power Save 1: Automatically stops second hand movement and liquid crystal display

* Power Save 2: Automatically stops watch functions

* Insufficient charging warning function

* Time setting warning function

* Overcharging prevention function

7. Continuous running times:

Fully charged to stopped: Roughly 4 years (when Power Save 2 function is operating)

Two-second interval movement to stopped: Roughly 1.5 days

8. Battery: Secondary battery

* Specifications are subject to change without notice.