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## 1. Features

This watch is a combination watch equipped with numerous functions, including time, calendar, alarm and chronograph functions, a destination timer that is able to measure the amount of time remaining until a destination is reached, and a zone setting function that enables easy access to the times and dates in 30 cities, including UTC. In addition, it is also provided with EL internal illumination that allows the time to be read even in dark locations.

## 2. Names of Components and Major Functions

Name/Mode	Time	Calendar	Alarm 1	Alarm 2	Alarm 3	Chronograph	Destination Timer	Zone setting
1 Mode hand	TME	CAL	AL-1	AL-2	AL-3	CHR	DST	SET
2 Hour hand	Always indicates "hours"				Always indicates "hours"			
3 Minute hand	Always indicates "minutes"				Always indicates "minutes"			
4 Second hand	Always indicates "second"				Always indicates "second"			
5 24 hour hand	Always indicates "24-hour time" in conjunction with hours and minutes				Always indicates "24-hour time" in conjunction with hours and minutes			
6 UTC hour hand	Always indicates "UTC hours"				Always indicates "UTC hours"			
7 UTC minute hand	Always indicates "UTC minutes"				Always indicates "UTC minutes"			
8 Digital display 1	Hours, minutes, seconds, A/P, SMT (when set to daylight savings time)	Month, date, day, SMT (when set to daylight savings time)	Hours, minutes, A/P, alarm (ON/OFF)		Hours, minutes, A/P, alarm (ON/OFF)	Measured time (seconds, minutes, 1/100 seconds)	Remaining time display (Hours, minutes, seconds)	City name (SET/OFF) SMT (ON/OFF)
9 Digital display 2	City name				City name	Measured time (hours)	City name	City name

Name /Mode	Crown position	Time	Calendar	Alarm 1	Alarm 2	Alarm 3	Chronograph	Destination Timer	Zone setting
	Normal position	Mode switching				Mode switching			
0 Crown	1st click		-----				-----		Changing the city
	2nd click	Time correction	Date correction	Alarm time correction		Alarm time correction	0-position setting	Destination timer correction	City name, time difference setting
	Normal position	Changing the city				Changing the city	Start/stop	Switching indication (remaining time/setting time)	Changing the city
Button (A)	1st click		-----				-----		Switching city name (SET/OFF)
	2nd click	Switching location to be corrected				Switching location to be corrected		Switching the location of correction	Switching location to be corrected
	Normal position	Changing the city				Changing the city	Split, reset	Switching indication (setting time/setting date)	Changing the city
Button (B)	1st click		-----	Switching alarm (ON/OFF)		Switching alarm (ON/OFF)		-----	Switching SMT (ON/OFF)
	2nd click	Switching SMT (ON/OFF) Switching between "seconds" correction and "24 hour time"	-----	Switching alarm (ON/OFF)		Switching alarm (ON/OFF)	-----	Switching between RUN/STP	-----
	Normal position	EL illumination	EL illumination	EL illumination	EL illumination	EL illumination	EL illumination	EL illumination	EL illumination
Button (C)	1st click	EL illumination	EL illumination	EL illumination	EL illumination	EL illumination	EL illumination	EL illumination	EL illumination
	2nd click	-----	-----	EL illumination	EL illumination	EL illumination	-----	EL illumination	EL illumination

### 3. Switching the Mode (Display Functions)

The mode can be switched by turning the crown. Check the current mode with the mode hand.

<Switching the Mode>

TME Time	CAL Calendar	AL-1 Alarm 1	AL-2 Alarm 2
SET Zone Setting	DST Destination timer	CHR Chronograph	AL-3 Alarm 3

Mode hand

## 4. Checking 0-Position of Each Hand

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

### <0-Position Check>

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 second click.
  - The second hand, minute hand, hour hand, 24 hour hand, UTC hour hand and UTC minute hand rapidly advance to the 0-position (12:00 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 Base Position)>

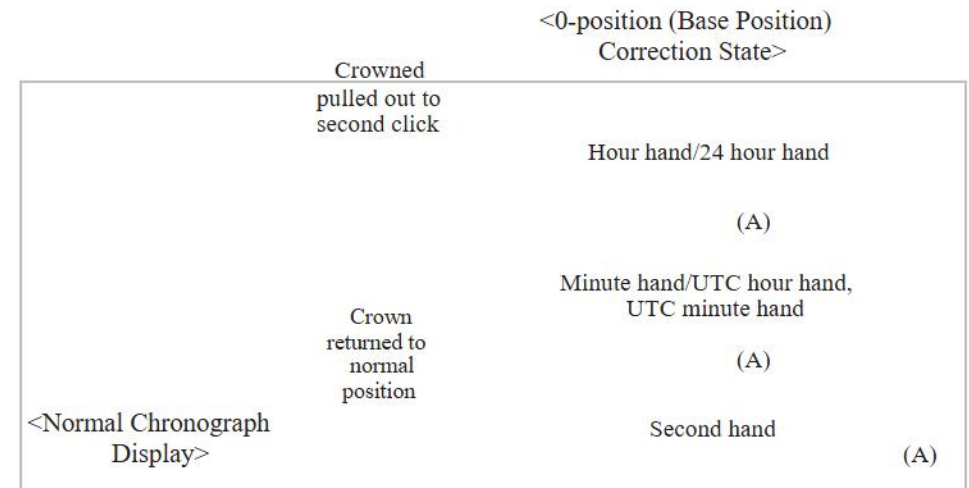
When setting the 0-position of each hand, always make sure to turn the crown forward (clockwise) to set each hand to its 0-position in the clockwise direction.

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 second click (0-position correction position).
  - The second hand, minute hand, hour hand, 24 hour hand, UTC hour hand and UTC minute hand rapidly advance to the position stored in memory.
  - "HR" lights during digital display 2 indicating that the watch is in the correction state.
3. Turning the crown forward (clockwise) allows correction to be made in the positive direction. Turning the crown continuously allows the 0-position to be corrected continuously.
4. Pressing button (A) switches the correction location between "MIN" (minute hand) and "SEC" (second hand) each time it is pressed.
5. Turn the crown forward (clockwise) to align each hand at the 0-position at each correction location. Although correction can be made in the negative direction by turning the crown backward (counter-clockwise), always make sure to set the 0-position by turning the crown forward to ensure that the 0-position is set correctly.
  - The 24 hour hand is corrected in conjunction with the hour hand.

- The UTC hour and minute hands are corrected in conjunction with the minute hand.
  - The second hand can only be corrected in the forward (clockwise) direction only.
6. After correcting, 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.



## 5. Accessing Times or Dates of Major Cities

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 time [TME] or [CAL] calendar mode.
2. When button (A) is pressed, the times or dates of major cities are displayed while scrolling up each time it is pressed.
3. When button (B) is pressed, the times or dates of major cities are displayed while scrolling down each time it is pressed.
  - Pressing button (A) or (B) continuously causes the display to advance rapidly.

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

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

\* Cities (regions) in which daylight savings time is used are indicated with a K, while those in which it is not are indicated with an M.

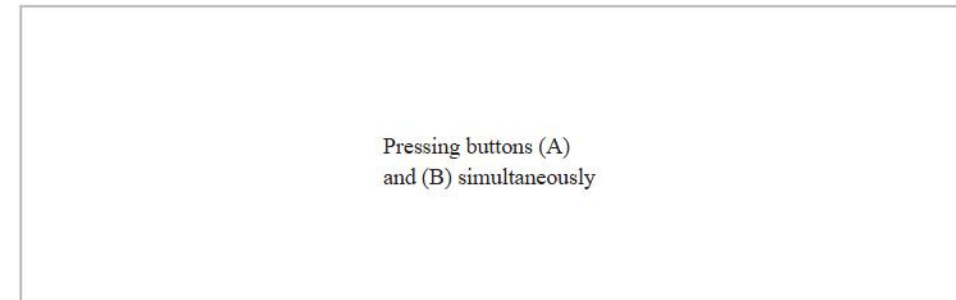
\* The time difference and use of daylight savings time of each city are subject to change by the particular country.

## 6. Switching 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)

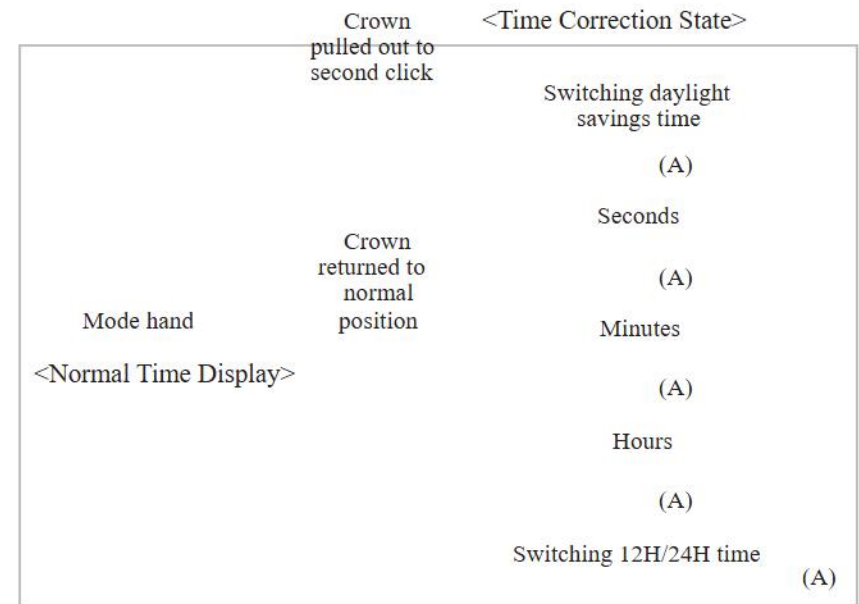
Analog time: 8:10 PM (New York: NYC)  
Digital time: 10:10 AM (Tokyo: TYO)

## 7. Setting the Time (Time is corrected by digital display)

- When digital time is corrected, the second, minute, hour, 24 hour and UTC hour and minute hands of the analog time are corrected automatically in conjunction with digital time.

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 second click (time setting position), the watch enters the time 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. (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 forward (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. Although correction can be made in the negative direction when the crown is turned backward (counter-clockwise), always make sure to turn the crown forward to ensure that the time is set correctly.
- Continuously turning the crown, allows for continuous correction. When stopping it, rotate the crown either to the left or to the right.
- Switching "12H/24H time" is performed by pressing button (B).

5. After corrections have been completed, return the crown to the normal position.



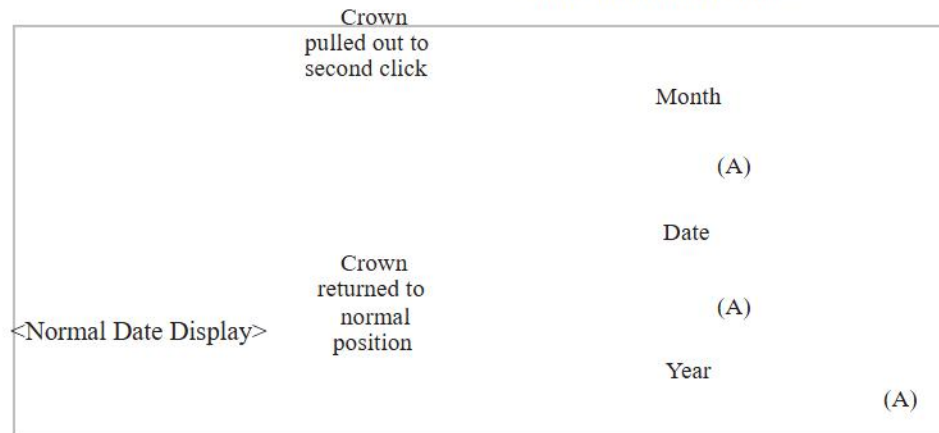
Notes:

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 procedures have been performed correctly by first checking that the time has changed.

## 8. 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 second click, 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 so that it is flashing.
  - When the crown is turned forward (clockwise), correction is made in the positive direction. When the crown is turned backward (counter-clockwise), correction is made in the negative direction. Turning the crown continuously allows corrections to be made rapidly. When stopping it, rotate the crown either to the left or to the right.
5. After corrections have been completed, return the crown to the normal position.

<Date correction state>



Notes:

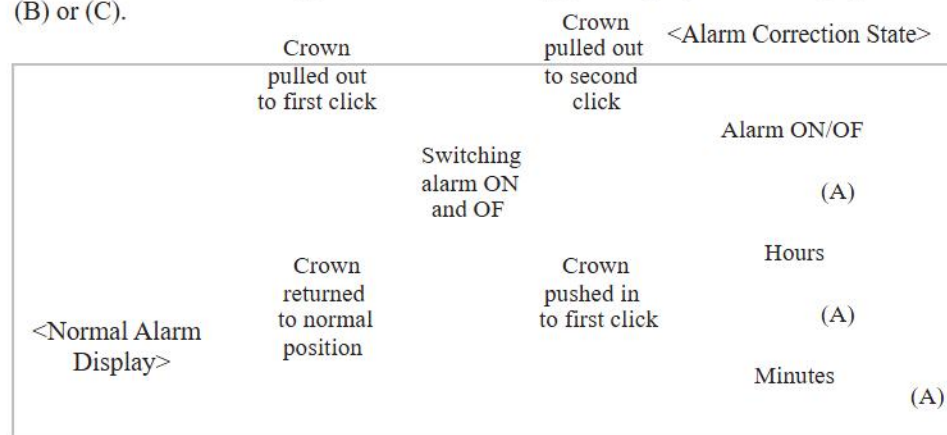
1. When the date is set for any one city, the dates of other cities, including UTC time, are corrected automatically.
2. The year can be set from 2000 to 2099.
3. The day is corrected automatically when the year, month and date are set.
4. Since this watch is equipped with an auto-calendar function, 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, the watch automatically displays the 1st day of the following month when the watch is returned to the normal display.

## 9. Using the Alarm Mode

The alarm setting procedure and other procedures for alarm use are the same for Alarm 1, 2 and 3. Only the tone that sounds is different.

The alarm sounds for 15 seconds when the set time is reached once a day.

When the alarm is sounding, it can be turned off by pressing any of buttons (A), (B) or (C).



### <Setting the Alarm Time>

1. Turn the crown and set the mode hand to either the Alarm 1, 2 or 3 [AL-1, 2 or 3] 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 second click, the watch enters the alarm correction state.
  - The alarm can be set (ON) or canceled (OF) by pressing button (B) when the watch is in the alarm ON/OF correction state.
  - When the crown is turned forward (clockwise) in the "hours" or "minutes" correction state, correction is made in the positive direction. When the crown is turned backward (counter-clockwise), correction is made in the negative direction.
  - Turning the crown continuously allows corrections to be made rapidly. When stopping it, rotate the crown either to the left or to the right.
5. After corrections have been completed, return the crown to the normal position.

Note:

1. 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.

#### <Switching Alarm ON and OF>

The alarm can be switched ON and OF by pulling out the crown to the first click even when not in the alarm correction state.

1. Pull out the crown to the first click in the alarm mode to allow the alarm to be switched ON and OF.
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.

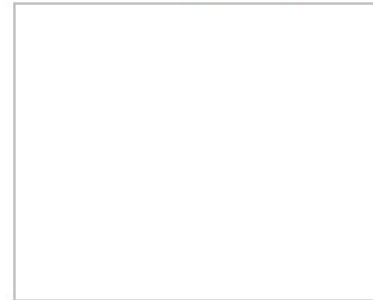
#### <Alarm Monitor>

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

## 10. Using the Chronograph

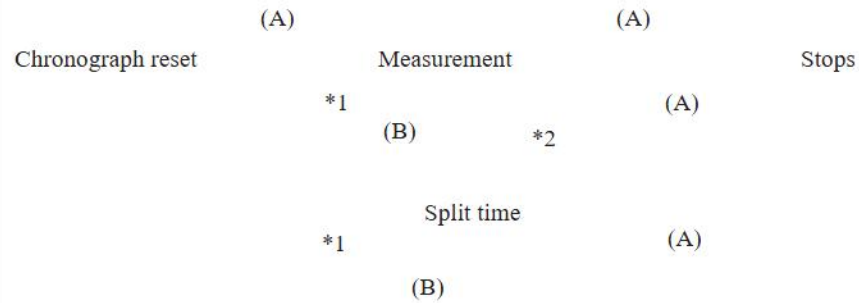
The chronograph is able to measure and display time up to a maximum of 23 hours, 59 minutes, 59.99 seconds in 1/100th second units. After 24 hours have elapsed, the chronograph automatically returns to the chronograph reset display (00'00"00) and stops.

#### <Normal Chronograph Display> <Chronograph Measurement>



1. Turn the crown to set the mode hand to the chronograph [CHR] mode.
2. Pressing button (A) repeatedly starts and stops the chronograph each time it is pressed.
3. Split time is displayed for 10 seconds when button (B) is pressed during chronograph measurement.
  - The "SPL" mark flashes during split time display.
4. Pressing button (B) while the chronograph is stopped returns the chronograph to the chronograph reset display.

(B)



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

## 11. Using the Destination Timer

The destination timer calculates and displays the amount of time remaining until a destination is reached after setting the name of the destination city, time of arrival and date of arrival. When the remaining time reaches 0 seconds, a tone sounds indicating that the time is up. After the time is up, the timer changes to a display of elapsed time.

<Initial Setting State>



#### <Setting Procedure>

1. Turn the crown to align the mode hand to the destination timer [DST] mode.
2. When the crown is pulled out to the 2nd click, the destination timer can be switched between "RUN (operating)" and "STP (not operating)".
3. Pressing button (B) switches the destination timer between RUN and STP each time it is pressed.
4. Pressing button (A) changes the location that can be corrected each time it is pressed. Press button (A) until the location to be corrected flashes.
5. Turn the crown and set the name of the destination city, time, date and so forth.
  - Turning the crown continuously causes the display to advance continuously. Turn the crown to the right or left to stop the display from advancing.
6. When the crown is returned to the normal position, and the destination timer has been set to RUN, measurement begins automatically and the city name and amount of time remaining until arrival are displayed.  
When the destination timer is set to "STP", "---" is displayed on digital displays 1 and 2.

#### Note:

1. Only those cities for which "SET" is selected with the zone setting function are displayed for the city name.
2. In the case daylight savings time has been set with the time or zone setting function, the remaining time is displayed after adding in daylight savings time.

#### <Interpretation of Arrival Time and Arrival Date>

1. When button (A) is pressed in the destination timer mode, the set arrival time is displayed on digital display 1.
2. When button (B) is pressed while arrival time is displayed, the set month, day and year (last two digits) are displayed.

### <Setting Range and Display Range>

Setting range: From 12:00 AM on January 1, 2000 to 11:59 PM on December 31, 2099

City names that can be set: Those cities that have been set to "ON" with the zone setting function

Display range:

When displaying remaining time:

- Remaining time is displayed from 99 hours, 59 minutes and 59 seconds to 0 hours, 00 minutes and 00 seconds. "ER" is displayed when the remaining time exceeds 100 hours.

When displaying elapsed time:

- Elapsed time is displayed from 0 hours, 00 minutes and 00 seconds to 99 hours, 59 minutes and 59 seconds. The display changes to "ER" when the elapsed time exceeds 100 hours.

Note:

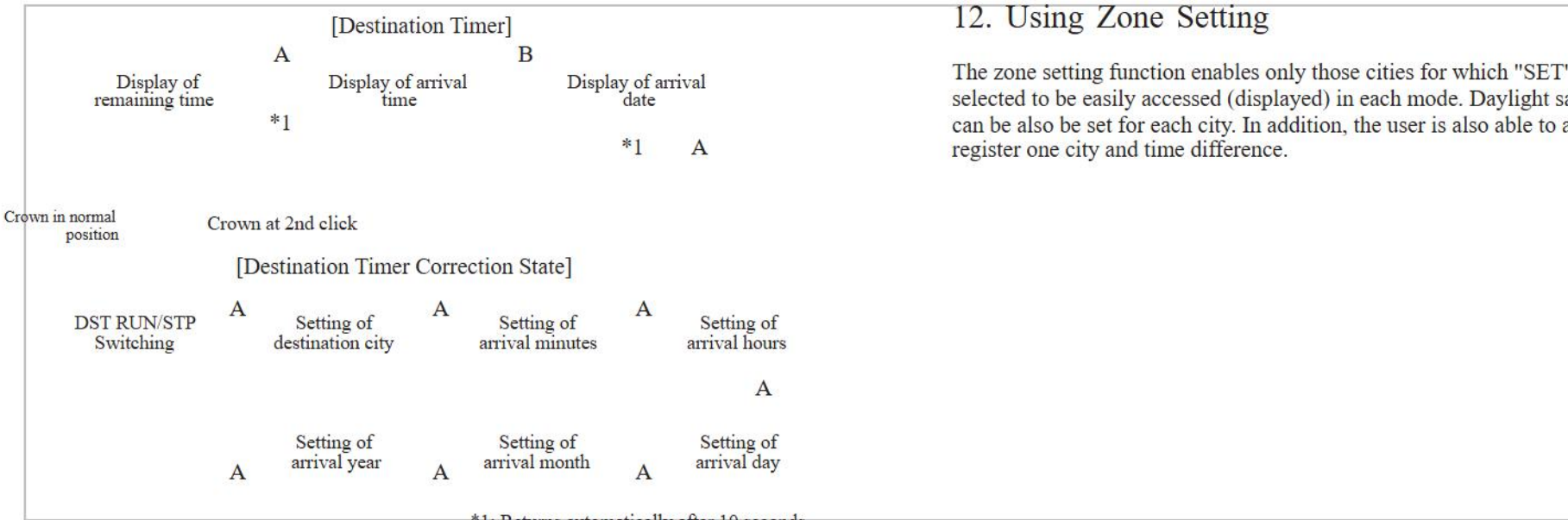
1. Time is continued to be measured inside the watch even when "ER" is displayed.

### <Changing Destination City Name, Arrival Time and Arrival Date>

1. When the city name, arrival time and arrival date are changed once they have been set, the remaining time is recalculated and displayed based on the new city name, arrival time and arrival date.

Note:

1. If the city name set with the destination timer is set to "OFF" with the zone setting function and the watch is again returned to the destination timer, "ER" is displayed and the next city name (in the UP direction) is displayed for the city name.



\*1: Returns automatically after 10 seconds

## 12. 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. Daylight savings time can be also be set for each city. In addition, the user is also able to arbitrarily register one city and time difference.

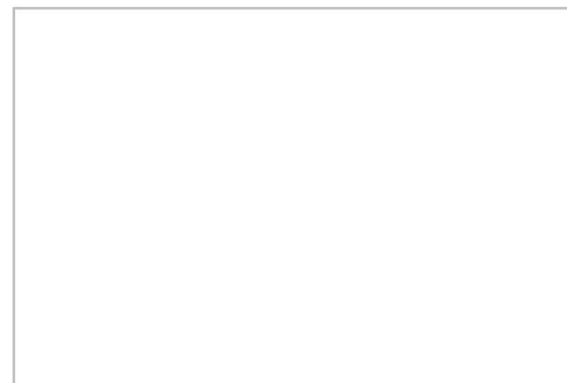
#### <Using Zone Setting>

1. Turn the crown while in the normal position and set the mode hand to the mode 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 (A) to set the city and press button (B) to set daylight savings time.
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.

#### <Registration of Arbitrary City and Time Difference>



1. Turn the crown while in the normal position and set the mode hand to the zone setting [SET] mode.
2. When the crown is pulled out to the second click, the watch enters the correction state for the third letter of the city name.

3. Turning the crown displays those characters that are used for city names.
  - Turning the crown continuously causes the characters to advance rapidly.
4. The correction location changes each time button (A) is pressed.
5. When button (A) is pressed during the correction state of the first character of the city name, the watch enters the correction state for the time difference from UTC.
6. Turn the crown to display the time difference.
7. After setting, return the crown to the normal position.

#### <Characters and Symbols Used in City Names>

- Letters of the alphabet (A to Z)
- Numbers (0-9)
- Symbols (--: hyphens, : blank spaces)

#### <Display Sequence>

When the crown is turned forward (clockwise), the display changes in the order of letters (A-Z), numbers (0-9) and then symbols ( : blank spaces, --: hyphens). When the crown is turned backward (counter-clockwise), the display sequence is opposite that when turning the crown forward.

#### <Order in which Registered Cities are Displayed>

The location having the same time difference among the 30 cities pre-registered in this watch is displayed first. However, a city is not displayed if the time difference of a registered city has not been set.

#### <Canceling Registered Cities>

1. Turn the crown to set the mode hand to the zone setting [SET] mode.
2. When the crown is pulled out to the second click (city setting position), the watch enters the city name correction state.
3. Turn the crown to change the display of the registered city name to "-- -- --".
4. After canceling registration, return the crown to the normal position.

### 13. Low Battery Warning Function

When battery capacity becomes low, the second hand begins to move two graduations (two seconds) at a time to inform the wearer that the battery has nearly reached the end of its life. Replace the battery promptly when this happens.

#### [Analog Display]

- When the low battery warning function is activated, the second hand begins two-second interval movement regardless of the display (mode) of the watch. However, the 24-hour hand, hour hand and minute hand continue to keep the correct time.

#### [Digital Display]

##### <Digital Display in Each Mode>

- When the low battery warning function is activated, the watch enters the normal time display regardless of the position of the crown (1st or 2nd click) in any mode other than the calendar mode.
- When the watch is in the calendar mode, the watch enters the normal date display regardless of the position of the crown.

Notes:

- The crown can only be operated to change the mode (crown 0 click position).
- The buttons can only be used to change the city name (UP/DOWN).
- The EL light is not illuminated even if the button is pressed.
- The alarm tone does not sound even if the alarm is set.
- The chronograph stops measuring time even if measurement is in progress and is reset.
- Although the destination timer tone does not sound even if measurement is completed, measurement continues.

## 14. EL Internal Illumination

EL, which is the abbreviation for electroluminescence, is a phenomenon in which light is emitted following the application of a voltage. This watch employs a method whereby light is emitted by incorporating an EL substance in the panel. EL illumination is turned on by pressing button (C).

## 15. 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.

### <All-Reset Procedure>



1. Turn the crown to set the mode hand to the chronograph [CHR] mode.
2. Pull out the crown to the second click.
  - The second hand, minute hand, hour hand, 24 hour hand, UTC hour hand and UTC minute 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 either of the buttons is released.

4. This fully lit display is canceled when the crown is returned to the normal position.
  - After cancelling, a confirmation tone is sounded after which each of the hands perform a demonstration movement in the order of the second hand, minute hand, UTC minute hand, UTC hour hand, the hour hand, and the 24 hour hand to indicate that the all-reset procedure has been completed.
  - After the demonstration movement, pull the crown out to the second click to switch the setting to the watch base position setting state.  
Always make sure to set the 0 position (base position) for the hour hand, minute hand, second hand, 24-hour hand and UTC hour and minute hands while referring to "4. Checking 0-Position of Each Hand <0-Position Correction>".

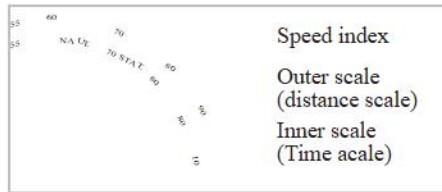
#### Note:

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

## 16. Using the Register Ring

The bezel design may vary depending on the model.  
[Calculation function]

Note the following points when using this function. Use the calculation function of this watch only as a guide. These scales do not indicate the position of the decimal point.



### A. Navigational calculation

#### 1) Time required

Example: Obtain the time required for the flight of an aircraft at 180 knots for 450 nautical miles.

Answer. Align "18" on the outer scale with the SPEED INDEX ( Y ) on the inner scale. Then, "45" on the outer scale corresponds to "2:30" on the inner scale (time scale). Thus, the time required for the flight is 2 hours and 30 minutes.

#### 2) Knots (air speed)

Example: Obtain the knots (air speed) for 240 nautical miles with a flight time of 1 hour and 20 minutes.

Answer. Align "24" on the outer scale with "1:20" on the inner scale (time scale). Then, the SPEED INDEX ( Y ) on the inner scale corresponds to "18" on the outer scale. Thus, the air speed for the flight is 180 knots.

#### 3) Flight distance

Example: Obtain the air distance when the air speed is 210 knots and the flight time is 40 minutes.

Answer. Align "21" on the outer scale with the SPEED INDEX ( Y ) on the inner scale. then, "40" on the inner scale corresponds to "14" on the outer scale. Thus, the air distance of the flight is 140 nautical miles.

#### 4) Rate of fuel consumption

Example: Obtain the rate of fuel consumption (gallons / hour) when the flight time is 30 minutes and the fuel consumption is 120 gallons.

Answer. Align "12" on the outer scale with "30" on the inner scale. Then, the SPEED INDEX ( Y ) on the inner scale corresponds to "24" on the outer scale. Thus, the fuel consumption is 240 gallons per hour.

#### 5) Fuel consumption

Example: Obtain the fuel consumption required for a flight when the rate of fuel consumption is 250 gallons per hour and the flight time is 6 hours.

Answer. Align "25" on the outer scale with the SPEED INDEX ( Y ) on the inner scale. Then, "6:00" on the inner scale (time scale) corresponds to "15" on the outer scale. Thus, the fuel consumption is 1,500 gallons.

#### 6) Estimated flight time

Example: Obtain the estimated flight time when the rate of fuel consumption is 220 gallons per hour and the aircraft has 550 gallons of fuel.

Answer. Align "22" on the outer scale with the SPEED INDEX ( Y ) on the inner scale. Then, "55" on the outer scale corresponds to "2:30" on the inner scale (time scale). Thus, the estimated flight time is 2 hours and 30 minutes.

#### 7) Difference in altitude

The difference in altitude can be obtained from the rate of descent and the descent time.

Example: Obtain the difference in altitude when an aircraft continues descending for 23 minutes at a rate of 250 feet per minute.

Answer: Align "25" on the outer scale with "10" on the inner scale. Then, "23" on the inner scale corresponds to "57.5" on the outer scale. Thus, the difference in altitude is 5,750 feet.

8) Rate of climb (or descent)

The rate of climb (or descent) can be obtained from the time required to reach an altitude.

Example: Obtain the rate of climb when an aircraft reaches an altitude of 7,500 feet after climbing for 16 minutes.

Answer: Align "75" on the outer scale with "16" on the inner scale. Then, "10" on the inner scale corresponds to "47" on the outer scale. Thus, the rate of climb is 470 per minute.

9) Time of climb (or descent)

The time required for climb can be obtained from the altitude to be reached and the rate of climb (or descent).

Example: Obtain the time of climb when an aircraft is to climb to 6,300 feet at a rate of 550 feet per minute.

Answer: Align "55" on the outer scale with "10" on the inner scale. Then, "63" on the outer scale corresponds to "11.5" on the inner scale. Thus, the time of climb is 11 minutes and 30 seconds.

10) Conversion

Example: Convert 30 statute miles into nautical miles and kilometers.

Operation: Align "30" on the outer scale with STAT (  $\overline{Y}$  ) on the inner scale. Then, NAUT (  $\overline{X}$  ) on the inner scale corresponds to "26" nautical miles on the outer scale, and "48.2" (s) on the inner scale corresponds to "48.2" km on the outer scale.

## B. General Calculation Functions

### 1) Multiplication

Example: 20 M 15

Operation: Align "20" on the outer scale with "10" on the inner scale. Then, "15" on the inner scale corresponds to "30" on the outer scale. Take into account the position of the decimal point and add one zero to obtain 300. Note that with the scales of this watch, the position of the decimal point cannot be obtained.

### 2) Division

Example: 250 / 20

Operation: Align "25" on the outer scale with "20" on the inner scale. Then, "10" on the inner scale corresponds to "12.5" on the outer scale. Take into account the position of the decimal point to obtain 12.5.

### 3) Proportion

Example: 30/20 = 60/x

Operation: Align "30" on the outer scale with "20" on the inner scale. Then, "60" on the outer scale corresponds to "40" on the inner scale. At this point, the proportion for every value on the inner and outer scales is 30:20.

### 4) Square root

Example: Square root of 225

Operation: Turn the outer scale slowly and find a value that corresponds to both "22.5" on the outer scale and "10" on the inner scale. In this example, "22.5" on the outer scale corresponds to "15" on the inner scale, and "10" on the inner scale corresponds to "15" on the outer scale. Thus, the answer is 15.

## 17. Precautions

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.

### 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.

Indication		Specification	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
Dial	Case (Case back)						
WATER RESIST or no indication	WATER RESIST(ANT)	Water-resistant to 3 atmospheres	OK	NO	NO	NO	NO
WR 50 or WATER RESIST 50	WATER RESIST(ANT) 5 bar or WATER RESIST(ANT)	Water-resistant to 5 atmospheres	OK	OK	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

Examples of use

- 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.

**WARNING:** Handling of the battery

- Keep the battery out of the reach of small children. If a child swallows the battery, contact a physician immediately.

**CAUTION:** Replacing the battery

- For replacement of the battery, take your watch to your dealer or Citizen Service Center.
- Replace the battery as soon as possible if the service life of the battery has expired. Leaving a depleted battery in the watch may result in leakage, which can damage the watch severely.

**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.

## 18. Specifications

1. Caliber No.: C390-00A
2. Type: Combination watch
3. Accuracy: Within  $\pm 20$  seconds per month (when worn at normal temperatures of  $+5^{\circ}\text{C}$  to  $+35^{\circ}\text{C}/41^{\circ}\text{F}$  to  $95^{\circ}\text{F}$ )
4. Operating Temperature Range:  
Watch operating temperature range:  $0^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$  ( $32^{\circ}\text{F}$  to  $131^{\circ}\text{F}$ )
5. Display Functions:
  - Analog
    - Time: Seconds, minutes, hours, 24 hours, UTC minutes, UTC hours, mode
  - Digital
    - Time: Seconds, minutes, hours, city name, daylight savings time, A/P
    - Calendar: Month, date, day, city name
    - Alarm 1: Hours, minutes, A/P, city name, ON/OFF
    - Alarm 2: Hours, minutes, A/P, city name, ON/OFF
    - Alarm 3: Hours, minutes, A/P, city name, ON/OFF
    - Chronograph: Chronograph hours, chronograph minutes, chronograph seconds, chronograph 1/100 seconds, SPL, 24 hour measurement

- Destination Timer: City name, remaining time until arrival, set time, set month, day and year
- Zone setting: City name (SET/OFF), daylight savings time (ON/OFF), display setting and cancellation for each city, setting of ON/OFF for daylight savings time for each city

### 6. Additional Functions

- Switching between main time (analog) and sub-time (digital)
- Low battery warning function
- EL internal illumination function

7. Battery: 280-74 ; Battery Code: SR936W

8. Battery life: Approx. 2 years (when using the alarm 6 times/day, the chronograph for 24 hours per measurement/week, the destination timer once/week, and EL 6 times/1day)

\* Specifications are subject to change without notice.