

Cuando lea este manual de instrucciones mantenga el diagrama del reloj en la izquierda desplegado y a la vista. Los símbolos ((A), (B), etc.) que se usan en las secciones de las instrucciones del manual, se refieren a los símbolos indicados en este diagrama.

El diseño puede diferir ligeramente dependiendo del modelo.

Durante la lettura di questo manuale di istruzioni, è importante che il simbolo dell'orologio a sinistra aperto e in vista. I simboli ((A), (B), etc.) usati nelle sezioni delle istruzioni sul funzionamento corrispondono a quelli indicati in questo schema.

Il design può differire leggermente a seconda del modello.

Ao ler este manual de instruções, mantenha o desenho do relógio à esquerda aberto e tácil de ver. Os símbolos ((A), (B), etc.) usados nas seções das instruções de operação referem-se aos símbolos indicados neste desenho.

Dependendo do modelo, o desenho do relógio pode diferir um pouco.

閱讀此使用指南時，請始終參照左面折頁上的錶圖。操作指南各章內所述各符號 ((A), (B) 等) 表示此圖所示符號。

錶的設計根據錶型略微不同。

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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, alarm, chronograph, timer and numerous other functions by converting light energy into electrical energy.

It is also equipped with convenient functions including three power save modes that reduce power consumption when light is not shining on the solar cell, and a "charge indicator" that roughly indicates how much the secondary battery is charged.

Check the caliber number (CAL No.) of your watch.

Always make sure to check the CAL number of your watch before using. Charging time and other specifications vary depending on the CAL number. The caliber number is stamped on the back cover of your watch as shown in the illustration.

CAL No.
C650-*****



2. Before Using

This watch is a solar-powered watch. Before using, allow light to shine onto the watch so that it is sufficiently charged. If the manual power save function has been activated, cancel it before charging. (Refer to p.60 for information on the procedure for canceling the manual power save function.)

A secondary battery is used in this watch 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

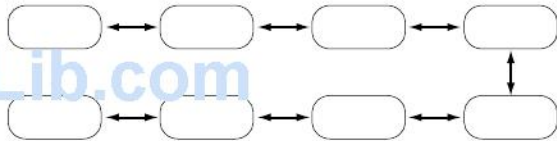
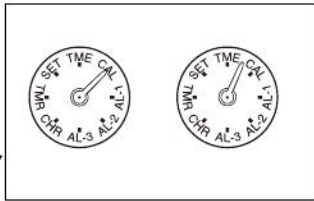
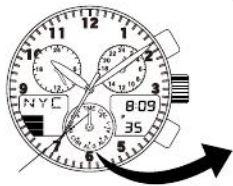
Name/Mode	Time	Calendar	Alarm 1	Alarm 2
① Mode hand	TME	CAL	AL-1	AL-2
② Hour hand	Always indicates "hours"			
③ Minute hand	Always indicates "minutes"			
④ Second hand	Always indicates "second"			
⑤ 24 hour hand	Always indicates "24-hour time" in conjunction with hours and minutes			
⑥ UTC hour hand	Always indicates "UTC hours"			
⑦ UTC minute hand	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)	
⑨ Digital display 2	City name			
	Charge indicator			

Alarm 3	Chronograph	Timer	Zone setting
AL-3	CHR	TMR	SET
Always indicates "hours"			
Always indicates "minutes"			
Always indicates "second"			
Always indicates "24-hour time" in conjunction with hours and minutes			
Always indicates "UTC hours"			
Always indicates "UTC minutes"			
Hours, minutes, A/P, alarm (ON/OFF)	Measured time (seconds, minutes, 1/100 seconds)	Remaining time display (minutes, seconds)	City name (SET/OFF) SMT (ON/OFF)
City name	Measured time (hours)	Set time (minutes)	City name
Charge indicator			

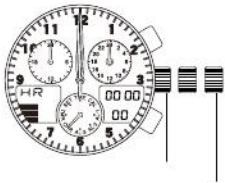
Name /Mode	Crown position	Time	Calendar	Alarm 1	Alarm 2
Ⓢ Crown	Normal position	Mode switching			
	1st click	-----			
	2nd click	Time correction	Date correction	Alarm time correction	
Button (A)	Normal position	Changing the city			
	1st click	-----			
	2nd click	Switching location to be corrected			
Button (B)	Normal position	Changing the city			
	1st click	-----		Switching alarm (ON/OFF)	
	2nd click	Switching SMT (ON/OFF) Switching between "seconds" correction and "24 hour time" correction	-----	Switching alarm (ON/OFF)	

Alarm 3	Chronograph	Timer	Zone setting
Mode switching			
-----			Changing the city
Alarm time correction	0-position setting	Set time correction	City name, time difference setting
Changing the city	Start/stop		Changing the city
-----			Switching city name (SET/OFF)
Switching location to be corrected		-----	Switching location to be corrected
Changing the city	Split, reset	Reset	Changing the city
Switching alarm (ON/OFF)	-----		Switching SMT (ON/OFF)
Switching alarm (ON/OFF)	-----		

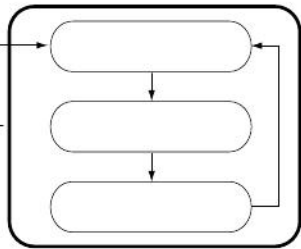
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6. Accessing Times or Dates of Major Cities

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.

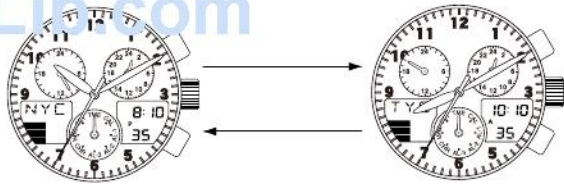
<Cities and UTC Time Differences Pre-registered in this Watch>

Display on watch	City name	Time difference	Daylight savings time	Display on watch	City name	Time difference	Daylight savings time
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	×
DAC	Dacca	+6	×	NYC	New York	-5	○
BKK	Bangkok	+7	×	YUL	Montreal	-5	○
SIN	Singapore	+8	×	CCS	Caracas	-4	×
HKG	Hong Kong	+8	×	RIO	Rio de Janeiro	-3	○
PEK	Beijing	+8	×	BUE	Buenos Aires	-3	×

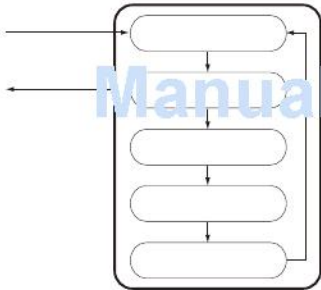
* Cities (regions) in which daylight savings time is used are indicated with a ○, while those in which it is not are indicated with an ×.

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

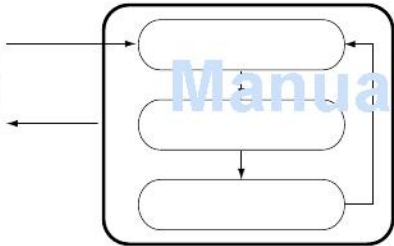
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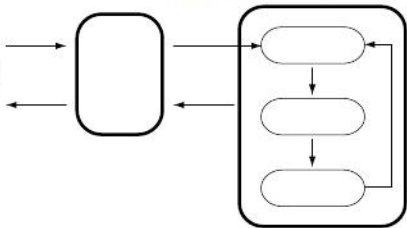


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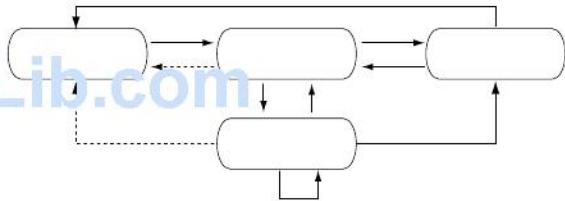
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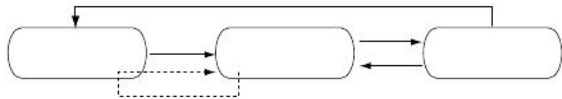
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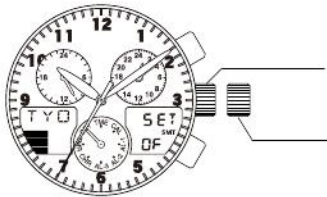
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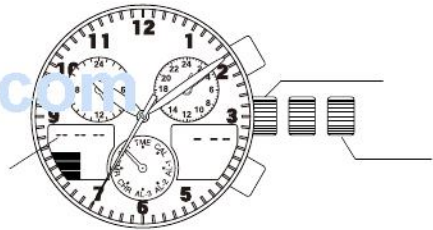
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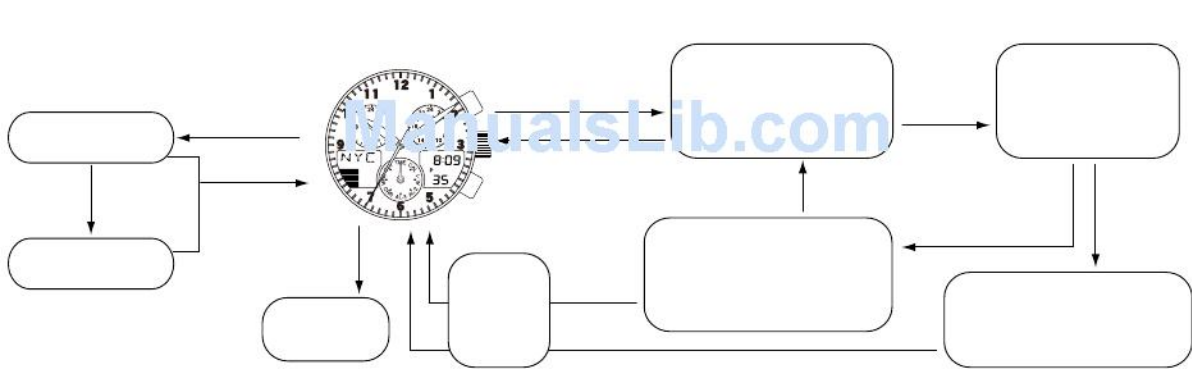


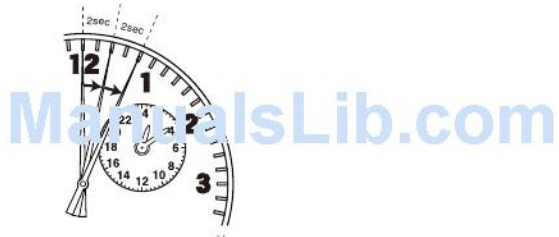
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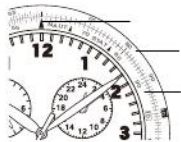
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A. Navigational calculation

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 (▲) 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 (▲) 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 (▲) 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 (▲) 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 (▲) 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 (▲) 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 (▲) on the inner scale. Then, NAUT (▲) on the inner scale corresponds to "26" nautical miles on the outer scale, and "12 km" (s) on the inner scale corresponds to "48.2" km on the outer scale.

B. General Calculation Functions

1) Multiplication

Example: 20×15

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.

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