


You are now the proud owner of a SEIKO Digital Quartz Watch Cal. W851. For best results, please read the instructions in this booklet carefully before using your SEIKO Digital Quartz Watch. Please keep this manual handy for ready reference.

Enhorabuena por su adquisición de un reloj SEIKO digital de cuarzo Cal. W851. Para óptimo resultado, lea detenidamente las instrucciones de este folleto antes de usar el reloj. Guarde este manual para consulta posterior.



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# SEIKO CAL. W851

## TIME/CALENDAR

### ALARM

- The alarm can be set to ring daily at five different times a day.

### STOPWATCH

- Measures up to 10 hours in 1/100 second increments.
- **Memory recall function:** Up to 199 lap and split times can be stored in memory.

### TIMER

- **Preset timer function:** 10 different lengths of time have been preset.
- **Adjustable timer function:** Can be set for up to 9 hours and 59 minutes in one-minute increments.

## WORLD TIME

- The time of 38 cities in different time zones throughout the world can be displayed together with their respective country codes for making overseas telephone calls.

## BUTTON OPERATION CONFIRMATION LIGHT

- The display is illuminated for 2 seconds with each press of any of the buttons.

## ILLUMINATING LIGHT (ELECTROLUMINESCENT PANEL)

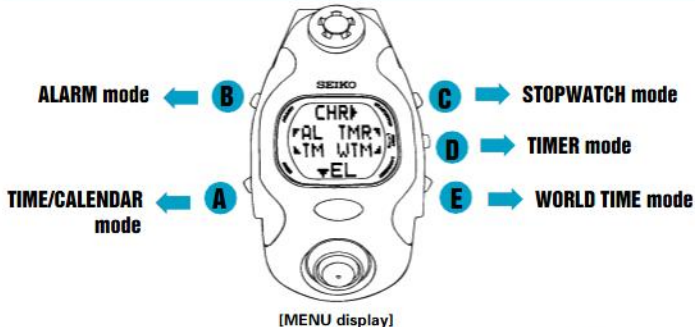
## FULL-PANEL DOT-MATRIX LIQUID CRYSTAL PANEL

- Choice of normal and enlarged displays can be made.

## MODE CHANGE

- Selection of a desired mode can be made by pressing the corresponding button in the MENU display.

\* When the desired mode is selected, an opening graphic display is shown before the selected mode appears.



- To change from one mode to another, press button A to return to the MENU display, and then press the corresponding button to select the desired mode.

- If "CHR" is flashing in the MENU display, the measurement is in progress in the STOPWATCH mode.

## ● CHANGING BETWEEN NORMAL AND ENLARGED DISPLAYS

- ☆ In all modes, you can choose between the normal display that shows all the data in four rows and the enlarged display that shows the main data in three rows.

- D** With each press, the normal and enlarged displays alternately appear.

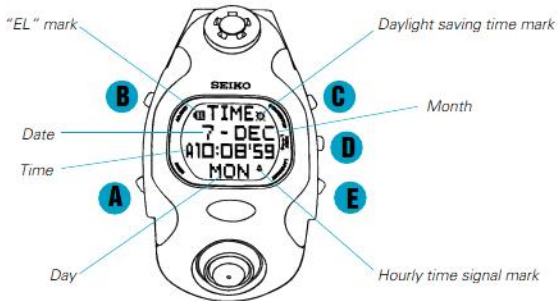
Ex. : In TIME/CALENDAR mode



## TIME/CALENDAR MODE

- Once the time/calendar of your area is set in the TIME/CALENDAR mode, the times of the 38 cities covered in the WORLD TIME mode will be set automatically.
- You can choose between standard time and daylight saving time.

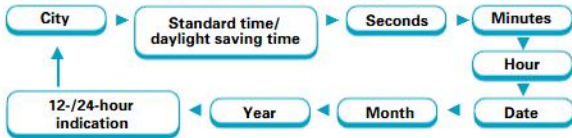
- A** Press in MENU display to show TIME/CALENDAR mode.



## TIME/CALENDAR SETTING

**B** Press and hold for 2 to 3 seconds to show TIME/CALENDAR SETTING display.

**D** Press repeatedly to select the digits (flashing) to be adjusted.



**C** Press to set the flashing digits. (Increasing order)

or

**E** Press to set the flashing digits. (Decreasing order)

**B** Press to return to TIME/CALENDAR mode.

## ● SHOWING THE SELECTED CITY

- A** Press to show the city selected for TIME/CALENDAR mode.

*\* The name of the selected city is displayed in place of the day, scrolling from right to left, and then the day is displayed again.*

## ● TURNING ON/OFF OF THE HOURLY TIME SIGNAL AND BUTTON OPERATION CONFIRMATION SOUND



Hourly time signal mark

- C** With each press in TIME/CALENDAR mode, the hourly time signal and button operation confirmation sound are alternately turned on and off.

*\* When the hourly time signal mark is displayed, the hourly time signal rings every hour on the hour and the confirmation sound beeps with each press of the buttons.*

## ● DEMONSTRATION FUNCTION

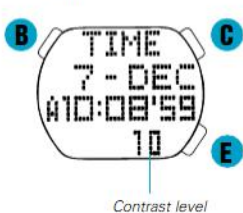
☆ Provided with a demonstration function, the watch shows the displays in each mode.

- E** Press and hold for 3 seconds in TIME/CALENDAR mode to start the demonstration.

- \* The name of the selected city appears in place of the day, and then the demonstration display will start, showing the display of each mode repeatedly.
- \* To stop the demonstration, press any of the buttons.

## ● ADJUSTING THE CONTRAST ON THE DISPLAY

- ☆ The contrast on the liquid crystal display can be adjusted in 16 steps from level "0" to "15".

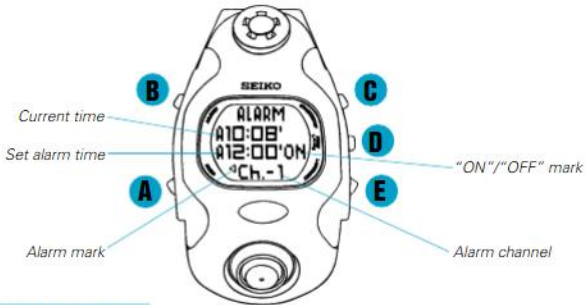


- C** Press and hold for 5 to 6 seconds in TIME/CALENDAR mode to show the CONTRAST ADJUSTMENT display.
- ▼
- C** Press repeatedly to adjust the contrast. (Increasing order)
- or
- E** Press repeatedly to adjust the contrast. (Decreasing order)
- ▼
- B** Press to return to TIME/CALENDAR mode.

## ALARM MODE

- The alarm can be set to ring daily at five different times a day.
- The alarms can be engaged and disengaged independently of one another.

- B** Press in MENU display to show ALARM mode.



## ALARM TIME SETTING

- E** Press to select the desired alarm channel (Ch.-1 – Ch.-5).

**B** Press and hold for 2 to 3 seconds to show ALARM SETTING display.

**D** Press to select the digits (flashing) to be adjusted.



**C** Press to set the flashing digits. (Increasing order)

or

**E** Press to set the flashing digits. (Decreasing order)

**B** Press to return to ALARM mode.

\* The alarm and "ON" marks are displayed and the alarm is automatically engaged.

## ● ALARM ENGAGEMENT/DISENGAGEMENT



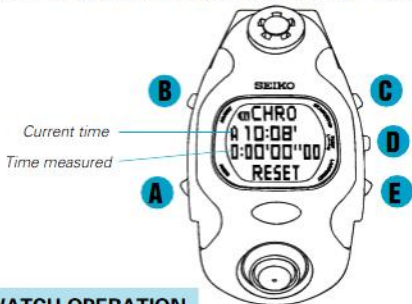
**E** Press to select the desired alarm channel (Ch.-1 – Ch.-5).

**C** With each press, the selected alarm is alternately engaged and disengaged.

## STOPWATCH MODE

- The stopwatch measures up to 10 hours in 1/100 second increments.

- C** Press in MENU display to show STOPWATCH mode.



### STOPWATCH OPERATION

Standard measurement

**C**



**C**



**E**

START

STOP

RESET

### Accumulated elapsed time measurement

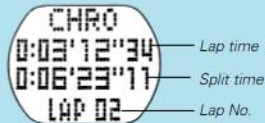


\* Restart and stop of the stopwatch can be repeated by pressing button C.

### Lap time and split time measurement



- \* Measurement of lap time and split time can be repeated by pressing button E.
- \* The lap time and split time measured remain displayed for 10 seconds together with the flashing lap number. Then the display automatically returns to the measurement in progress and the lap number increases by one.



## ● MEMORY RECALL FUNCTION

- ☆ The first 199 lap and split times are automatically stored in memory.
- ☆ The stored data can be recalled either during or after the measurement.



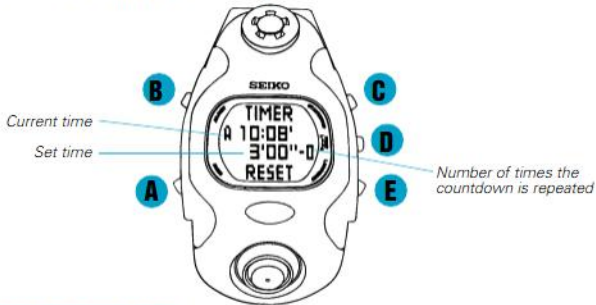
- B** Press to activate the memory recall function.
- ▼
- C** With each press, the stored data are recalled from the oldest to the newest.
- or
- E** With each press, the stored data are recalled from the newest to the oldest.
- ▼
- B** Press to return to STOPWATCH mode.

\* In memory recall after measurement, the oldest measurement in memory is displayed first.  
In memory recall during measurement, the newest one is displayed first.

## TIMER MODE

- Two types of timers are available: 10-channel preset timer and adjustable timer.
- The adjustable timer can be set for up to 9 hours and 59 minutes in one minute increments.

**D** Press in MENU display to show TIMER mode.



### PRESET TIMER SETTING

**E** Press repeatedly to select the desired preset time.



## ADJUSTABLE TIMER SETTING

**E** Press to select the adjustable timer (See above).

**B** Press and hold for 2 to 3 seconds to show ADJUSTABLE TIMER SETTING display.

**D** Press to select the digits (flashing) to be adjusted.

**C** Press to set the flashing digits. (Increasing order)

or  
**E** Press to set the flashing digits. (Decreasing order)



- B** Press to return to TIMER mode.

## TIMER OPERATION



- \* Restart and stop of the timer can be repeated by pressing button C.
- \* When the set time is up, a warning sound beeps for 5 seconds. To stop it manually, press any of the buttons.

## WORLD TIME MODE

- The time of 38 cities in different time zones throughout the world can be displayed together with their respective country codes for overseas telephone calls.

- E** Press in MENU display to show WORLD TIME mode.



- C** or **E** Press to select the desired city.

\* The name of the selected city scrolls from right to left.

## ● CHANGEOVER BETWEEN STANDARD TIME AND DAYLIGHT SAVING TIME

**B** If daylight saving time is in effect in the selected city, press to show it.

*\* With each press of button B, the standard time and daylight saving time of the selected city are alternately shown.*

## ● TIME DIFFERENCES AND COUNTRY CODES

GMT = Greenwich Mean Time

(As of April 1998)

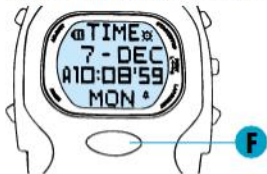
GMT ± (hours)	City mark	City name	Country name	Country code
0	GMT	Greenwich	United Kingdom	44
0	LON	London*	United Kingdom	44
+ 1	PAR	Paris*	France	33
+ 1	ROM	Rome*	Italy	39
+ 1	BER	Berlin*	Germany	49
+ 2	ATH	Athens*	Greece	30
+ 2	CAI	Cairo*	Egypt	20
+ 2	JRS	Jerusalem*	Israel	972
+ 3	MOW	Moscow*	Russia	7
+ 3	JED	Jeddah	Saudi Arabia	966
+ 3	RUH	Riyadh	Saudi Arabia	966
+ 3.5	THR	Tehran*	Iran	98
+ 4	DXB	Dubai	United Arab Emirates	971
+ 4.5	KBL	Kabul	Afghanistan	93

<b>GMT ± (hours)</b>	<b>City mark</b>	<b>City name</b>	<b>Country name</b>	<b>Country code</b>
+ 5	KHI	Karachi	Pakistan	92
+ 5.5	DEL	Delhi	India	91
+ 6	DAC	Dhaka	Bangladesh	880
+ 6.5	RGN	Yangon	Myanmar	95
+ 7	BKK	Bangkok	Thailand	66
+ 8	HKG	Hong Kong	China	852
+ 8	BJS	Beijing	China	86
+ 9	TYO	Tokyo	Japan	81
+ 9.5	ADL	Adelaide*	Australia	61
+ 10	SYD	Sydney*	Australia	61
+ 11	NOU	Nouméa	New Caledonia	687
+ 12	WLG	Wellington*	New Zealand	64
- 10	HNL	Honolulu	U.S.A.	1
- 9	ANC	Anchorage*	U.S.A.	1
- 8	YVR	Vancouver*	Canada	1
- 8	LAX	Los Angeles*	U.S.A.	1
- 7	DEN	Denver*	U.S.A.	1
- 6	CHI	Chicago*	U.S.A.	1
- 5	NYC	New York*	U.S.A.	1
- 5	YMQ	Montreal*	Canada	1
- 4	CCS	Caracas	Venezuela	58
- 3	BUE	Buenos Aires	Argentina	54
- 3	RIO	Rio de Janeiro*	Brazil	55
- 1	PDL	Azores Is.*	Azores Islands	351

\* The cities marked with "\*" use daylight saving time (summer time).

## ILLUMINATING LIGHT (Electroluminescent panel)

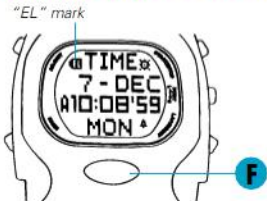
- Certain materials emit light when voltage passes through them. This phenomenon, known as “electroluminescence”, is used to illuminate the display.



- F** Press in any mode.

\* The display is illuminated for 3 seconds.

### ● TURNING ON/OFF OF THE BUTTON OPERATION CONFIRMATION LIGHT



- F** With each continuous press for 2 to 3 seconds, the button operation confirmation light is alternately turned on and off.

\* When the “EL” mark is displayed, the display is illuminated for 2 seconds with each press of a button to operate the watch.

## NOTES ON USING THE WATCH

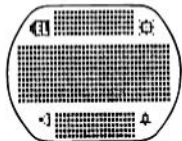
### TIME/CALENDAR MODE

#### [TIME/CALENDAR SETTING]

- The calendar automatically adjusts for odd and even months including February of leap years from the year 1998 up to the end of 2047.
- Once the year, month and date have been set, the day of the week is automatically set.
- The flashing digits except the seconds, the standard time/daylight saving time and the 12-/24-hour indication move quickly if button C or E is kept pressed.
- **Setting the seconds:**
  - With the second digits flashing, press button C or E in accordance with a time signal. The second digits are reset to "00".
  - When the seconds read any number from "30" to "59" and button C or E is pressed, one minute is added and the seconds are reset to "00".
- If "GREENWICH" is selected for the city, the display to set daylight saving time will not be shown.
- By selecting "ON" for daylight saving time, "⚙️" mark appears, and one hour is advanced.
- If the watch is left untouched in the TIME/CALENDAR SETTING display with the digits flashing, it will automatically return to the TIME/CALENDAR mode in 2 to 3 minutes.
- **When all the segments light up:**  
If buttons C and D are pressed at the same time in the TIME/CALENDAR SETTING display, all the segments of the display will light up as shown at right. This is not a malfunction.  
Press any of the buttons to return to the TIME/CALENDAR mode and then, set the time/calendar again.

#### [ADJUSTING THE CONTRAST ON THE DISPLAY]

- The contrast level has been initially set at "10" at the factory.
- When the contrast level is set to "0", the digits on the display will not be readable.



## **ALARM MODE**

### **[ALARM TIME SETTING]**

- The flashing digits move quickly if button C or E is kept pressed.
- When the time function is displayed in the 24-hour indication, the alarm is also displayed in the 24-hour indication.
- When setting the hour digits in the 12-hour indication, check that AM/PM is properly set.
- If the watch is left untouched in the ALARM SETTING display with the digits flashing, it will automatically return to the ALARM mode in 2 to 3 minutes.

### **[ALARM ENGAGEMENT/DISENGAGEMENT]**

- When any one of the alarms is engaged, the alarm mark is displayed.
- At the designated time the alarm rings for 20 seconds. To stop it manually, press any of the buttons.
- The alarm can be tested by keeping buttons C and D pressed at the same time in the TIME/CALENDAR mode.

## **STOPWATCH MODE**

- After 10 hours have been measured, the stopwatch continues measuring from "00". If it is left counting for more than 100 hours, it will automatically be stopped.
- The lap number counts up to "199". After "199", the number is displayed in two digits such as "00" for 200, "01" for 201, and so on.
- Even if the STOPWATCH mode is changed to another while the measurement is in progress, it continues counting properly. After the stopwatch is used, however, be sure to reset it to prevent the overconsumption of battery energy that would shorten the battery life.
- Even if the digits are reset to "00" in the stopwatch measurement, the stored data is not erased and can be recalled unless a new measurement is started.

### **[MEMORY RECALL FUNCTION]**

- In the normal display, the lap number is displayed at the bottom row.
- In the enlarged display, the split time is displayed together with the split number.
- If no measurement is made, "NO DATA" will be displayed when button B is pressed to activate the

memory recall function.

## **TIMER MODE**

- The timer counts down the set time repeatedly up to 10 times unless stopped.

### **[ADJUSTABLE TIMER SETTING]**

- The flashing digits move quickly if button C or E is kept pressed.
- If the watch is left untouched in the ADJUSTABLE TIMER SETTING display with the digits flashing, it will automatically return to the TIMER mode in 2 to 3 minutes.

## **WORLD TIME MODE**

- In the normal display, the daylight saving time (summer time) mark, country code, time and city mark are shown. In the enlarged display, the daylight saving time mark is not displayed.
- The time difference and use of daylight saving time may change in some areas or countries when they are so decided by the countries concerned.

## **ILLUMINATING LIGHT (Electroluminescent panel)**

- The electroluminescent panel loses its luminance as the battery voltage decreases. Also, its luminance level decreases gradually with use. After 120 hours of use, the level decreases by about half.
- When the illuminating light becomes dim, replace the battery with a new one. If the illuminating light remains dim after the battery is replaced, have the electroluminescent panel replaced with a new one by the retailer from whom the watch was purchased, or an AUTHORIZED SEIKO DEALER. It will be replaced at cost.
- While the illuminating light is used, the watch gives out a slight noise. However, this is not a malfunction.

### **[TURNING ON/OFF OF THE BUTTON OPERATION CONFIRMATION LIGHT]**

- This function is deactivated automatically in 11 to 12 hours after it is activated.

## BATTERY CHANGE

**2**  
**Years**

The miniature battery which powers your watch should last approximately **2 years**. However, because the battery is inserted at the factory to check the function and performance of the watch, its actual life once in your possession may be less than the specified period. When the battery expires, be sure to replace it as soon as possible to prevent any malfunction. For battery replacement, we recommend that you contact an AUTHORIZED SEIKO DEALER and request **SEIKO CR2025** battery.

\* *The battery life may be less than 2 years if:*

- *the alarm is used more than once a day,*
- *the illuminating light is used more than 3 times a day,*
- *the confirmation sound is used more than 50 times a day.*

### ● Battery life indicator

When all the digits start flashing, replace the battery with a new one as soon as possible. Otherwise, the watch will stop operating in 2 to 3 days. We suggest that you have the battery replaced by a SEIKO DEALER.

\* *Even though the display is flashing, time accuracy is not affected.*

### ● Necessary procedure after battery change

After the battery is replaced with a new one, or an abnormal display (broken digits, etc.) appears, follow the procedure below to reset the IC.

**Press and hold buttons A, B, C and E at the same time for 2 to 3 seconds.**

\* The display will become blank, and the MENU display will appear when the buttons are released.

### Then, press button A.

\* The display at right will appear.

\* Before using the watch, set the time/calendar and then the alarm.



### WARNING

- Do not remove the battery from the watch.
- If it is necessary to take out the battery, keep it out of the reach of children. If a child swallows it, consult a doctor immediately.



### CAUTION

- Never short-circuit, heat or otherwise tamper with the battery, and never expose it to fire. The battery may burst, become very hot or catch fire.
- The battery is not rechargeable. Never attempt to recharge it, as this may cause battery leakage or damage to the battery.

# TO PRESERVE THE QUALITY OF YOUR WATCH

## ■ WATER RESISTANCE

Indication on case back	Condition of use	Accidental contact with water such as rain and splashes	Swimming, yachting and taking a shower	Taking a bath and shallow diving	Scuba diving** and saturation diving
	Degree of water resistance*				
No indication	<b>Non-water resistant</b>	No	No	No	No
WATER RESISTANT	<b>3 bar</b>	Yes	No	No	No
WATER RESISTANT 5 BAR	<b>5 bar</b>	Yes	Yes	No	No
WATER RESISTANT 10/15/20 BAR	<b>10/15/20 bar</b>	Yes	Yes	Yes	No

### ● Non-water resistant



- If the watch becomes wet, have it checked by an AUTHORIZED SEIKO DEALER or SERVICE CENTER.

### ● Water resistant 5/10/15/20 bar



- Do not operate the buttons when the watch is wet or in water. If used in sea water, rinse the watch in fresh water and dry it completely.



- When taking a shower with a water resistant 5 bar watch, or taking a bath with a water resistant 10, 15

or 20 bar watch, be sure to observe the following:

- \* Do not operate the buttons when the watch is wet with soapy water or shampoo.
- \* If the watch is left in warm water, a slight time loss or gain may be caused. This condition, however, will be corrected when the watch returns to normal temperature.

*\* Pressure in bar is a test pressure and should not be considered as corresponding to actual diving depth since swimming movement tends to increase the pressure at a given depth. Care should also be taken on diving into water.*

*\*\* We recommend that you wear a SEIKO Diver's Watch for scuba diving.*

### ■ TEMPERATURES



Your watch works with stable accuracy within a temperature range of 5°C and 35°C (41°F and 95°F).

Temperatures over 50°C (122°F) or below -10°C (+14°F) may cause a slight time loss or gain or battery leakage or shorten the battery life.

However, the above conditions will be corrected when the watch returns to normal temperature.

## ■ SHOCKS & VIBRATION



Be careful not to drop your watch or hit it against hard surfaces.

## ■ MAGNETISM



Your watch will not be affected by magnetism.

## ■ CHEMICALS



Be careful not to expose the watch to solvents, mercury, cosmetic spray, detergents, adhesives or paints. Otherwise, the case, bracelet, etc. may become discolored, deteriorated or damaged.

## ■ CARE OF CASE AND BRACELET



To prevent possible rusting of the case and bracelet, wipe them periodically with a soft dry cloth.

## ■ PERIODIC CHECK



It is recommended that the watch be checked once every 2 to 3 years. Have your watch checked by an AUTHORIZED SEIKO DEALER or SERVICE CENTER to ensure that the case, buttons, gasket and crystal seal remain intact.

## ■ PRECAUTION REGARDING CASE BACK PROTECTIVE FILM



If your watch has a protective film and/or a sticker on the case back, be sure to peel them off before using your watch.

## ■ STATIC ELECTRICITY



The IC (Integrated Circuit) used in your watch will be affected by static electricity which may disturb the display. Keep the watch away from close contact with objects such as TV screens which emit strong static electricity.

## ■ LIQUID CRYSTAL PANEL



The normal life expectancy for a liquid crystal panel is approximately 5 years. After that it may decrease in contrast, becoming difficult to read. Please contact your **AUTHORIZED SEIKO DEALER** or **SERVICE CENTER** if you wish to have a new panel fitted (guaranteed one year).

## SPECIFICATIONS

- |   |                                       |   |
|---|---------------------------------------|---|
| 1 | Frequency of crystal oscillator ..... | 32,768 Hz (Hz = Hertz ... Cycles per second)  |
| 2 | Loss/gain (monthly rate) .....        | Less than 20 seconds at normal temperature range (5° C ~ 35° C) (41° F ~ 95° F)   |
| 3 | Operational temperature range .....   | -10° C ~ +50° C (14° F ~ 122° F)  |
| 4 | Display system                        |   |
|   | TIME/CALENDAR mode .....              | Year (only in the TIME/CALENDAR SETTING display), month, date, day of the week, hour, minutes and seconds<br>"A" (AM)/"P" (PM) mark in the 12-hour indication<br>TIME/CALENDAR mode mark<br>Name of the selected city<br>(Alarm mark, hourly time signal mark, "EL" mark and daylight saving time mark)           |
|   | ALARM mode .....                      | Alarm time (hour and minutes) and current time<br>"A" (AM)/"P" (PM) mark in the 12-hour indication<br>ALARM mode mark, "ON"/"OFF" mark and selected alarm channel<br>(Alarm mark, hourly time signal mark, "EL" mark and daylight saving time mark)   |
|   | STOPWATCH mode .....                  | Hour, minutes, seconds and 1/100 seconds<br>Current time and "A" (AM)/"P" (PM) mark in the 12-hour indication<br>STOPWATCH mode mark, "RESET", "STOP", "RUN", lap No./split No., and "RECALL" mark in the MEMORY RECALL display<br>(Alarm mark, hourly time signal mark, "EL" mark and daylight saving time mark) |

TIMER mode .....	Hour, minutes, seconds and the number of times the countdown is repeated Current time and "A" (AM)/"P" (PM) mark in the 12-hour indication TIMER mode mark, set time, "FREE" for the adjustable timer, selected preset time, "RESET", "STOP" and "RUN" (Alarm mark, hourly time signal mark, "EL" mark and daylight saving time mark)
WORLD TIME mode .....	Hour, minutes and seconds "A" (AM)/"P" (PM) mark in the 12-hour indication WORLD TIME mode mark "cc (country code)" mark, country code and name of the selected city (Alarm mark, hourly time signal mark, "EL" mark and daylight saving time mark)
5 Display medium .....	Nematic Liquid Crystal, FEM (Field Effect Mode)
6 Battery .....	SEIKO CR2025, 1 piece
7 Battery life indicator .....	All the digits in the display start flashing when the battery life nears its end.
8 IC (Integrated Circuit) .....	C-MOS-LSI, 1 piece Bipolar IC, 1 piece

\* The specifications are subject to change without prior notice for product improvement.