

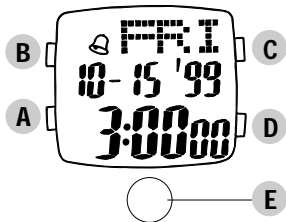
# PULSAR

## CAL. W890 DIGITAL QUARTZ

- Time/calendar
- World time
- 3-channel regular alarm
- 24-hour stopwatch with 20-lap memory
- Countdown timer
- Illuminating light (electroluminescent panel)

ENGLISH

## MODE CHANGE



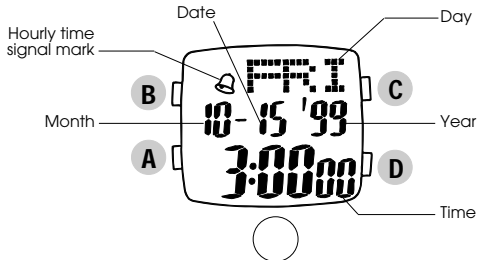
**A** With each press, the mode changes in the following order:



*\* If the watch is left untouched in any mode other than the TIME/CALENDAR, the mode will automatically change to the TIME/CALENDAR in 1 minute.*

## TIME/CALENDAR MODE

- Once the time/calendar of your area is set in the TIME/CALENDAR mode, the times of the 22 cities covered in the WORLD TIME mode will be set automatically.
- Changeover between the standard time and daylight saving time can be made.



\* Every 10 seconds, the day of the week blinks in different manners.

## TIME/CALENDAR SETTING

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

**A** Press to select the digits to be adjusted.

### Selection of the digits

12-/24-hour indication  $\triangleright$  Seconds  $\triangleright$  Minutes  $\triangleright$  Hour  
 $\blacktriangle$   $\blacktriangledown$   
City  $\triangleleft$  Date  $\triangleleft$  Month  $\triangleleft$  Year

**C** Set the flashing digits. (Increasing digits)

or

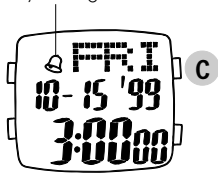
**D** Set the flashing digits. (Decreasing digits)

**B** Return to TIME/CALENDAR mode.

English

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

Hourly time signal mark



**C**

With each press, the hourly time signal and sound for button operation confirmation are alternately switched on and off.

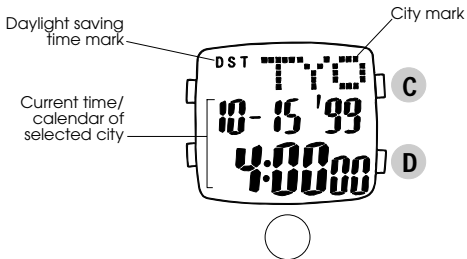
*\* When the hourly time signal mark is displayed, the hourly time signal rings every hour on the hour and the confirmation sound beeps with each press of the buttons.*

English

## WORLD TIME MODE

- The time of 22 cities in different time zones throughout the world can be displayed.

English



- C** Press to select the desired city.

*\* The mark of the selected city blinks.*

## CHANGEOVER BETWEEN STANDARD TIME AND DAYLIGHT SAVING TIME

- D** If the daylight saving time is effective in the selected city, press to show the daylight saving time.

*\* With each press of button D, the standard time and daylight saving time of the city are alternatively shown.*

## TIME DIFFERENCES

GMT = Greenwich Mean Time

(As of May 2001)

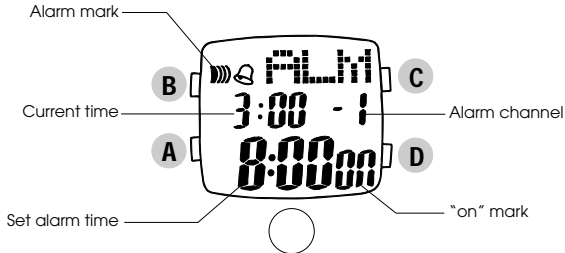
GMT ± (hours)	City mark	City name	Country name
0	L O N	London*	United Kingdom
+ 1	P A R	Paris*	France
+ 2	C A I	Cairo*	Egypt
+ 3	M O W	Moscow*	Russia
+ 4	D X B	Dubai	United Arab Emirates
+ 5	K H I	Karachi	Pakistan
+ 6	D A C	Dhaka	Bangladesh

<b>GMT ± (hours)</b>	<b>City mark</b>	<b>City name</b>	<b>Country name</b>
+ 7	B K K	Bangkok	Thailand
+ 8	H K G	Hong Kong	China
+ 9	T Y O	Tokyo	Japan
+ 10	S Y D	Sydney*	Australia
+ 11	N O U	Noumea	New Caledonia
+ 12	A K L	Auckland*	New Zealand
- 11	M D Y	Midway Is.	U.S.A.
- 10	H N L	Honolulu	U.S.A.
- 9	A N C	Anchorage*	U.S.A.
- 8	L A X	Los Angeles*	U.S.A.
- 7	D E N	Denver*	U.S.A.
- 6	C H I	Chicago*	U.S.A.
- 5	N Y C	New York*	U.S.A.
- 4	C C S	Caracas	Venezuela
- 3	R I O	Rio de Janeiro*	Brazil
- 2	- 2 H		
- 1	- 1 H		



## ALARM MODE

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



## ALARM TIME SETTING

- C** Press to select the desired alarm channel (Ch.-1 – Ch.-3).
- ▼
- B** Press for 2 seconds to show ALARM SETTING display.
- ▼
- A** Press to select the digits to be adjusted (hour/minutes).
- ▼
- C** Set the flashing digits. (Increasing digits)
- or
- D** Set the flashing digits. (Decreasing digits)
- ▼
- B** Return to ALARM mode.

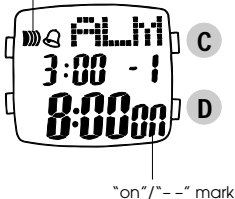
English

\* "on" and the alarm marks appear and the alarm is automatically engaged.

## ALARM ENGAGEMENT/DISENGAGEMENT

- The alarms can be engaged and disengaged independently of one another.

Alarm mark



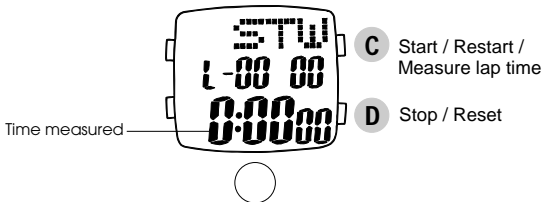
- C** Press to select the desired alarm channel (Ch.-1 – Ch.-3).
- ▼
- D** With each press, the selected alarm is engaged and disengaged alternately.

*\* At the designated time, the alarm rings for 30 seconds. To stop it manually, press any of the buttons.*

English

## STOPWATCH MODE

- The stopwatch measures up to 24 hours in 1/100 second increments.



\* While the stopwatch is measuring, a graphic display is shown in the upper row of the display.

### Lap time measurement



## MEMORY RECALL FUNCTION

- The first 19 lap times and the final lap time are automatically stored in memory.
- The stored data can be recalled unless the stopwatch is reset after the measurement.



Total elapsed time



First lap time

**A**

Press to activate the memory recall function.

*\* The total elapsed time is displayed.*

**C**

or

**D**

With each press, stored data are recalled from the oldest to the newest.

With each press, stored data are recalled from the newest to the oldest.

**A**

Press repeatedly to show STOPWATCH mode.

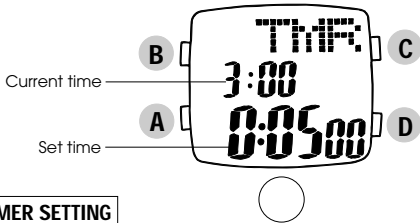
*\* The final lap time is displayed.*

**D**

Press to reset the digits to "00".

## TIMER MODE

- The timer can be set up to 23 hours, 59 minutes and 59 seconds in second increments.



**B** Press for 2 seconds to show TIMER SETTING display.



**A** Press to select the digits to be adjusted.



- ▼  
**C** Set the flashing digits. (Increasing digits)  
or  
**D** Set the flashing digits. (Decreasing digits)  
▼  
**B** Return to TIMER mode.

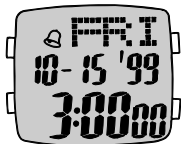
## TIMER OPERATION



\* While the timer is counting, the **TIMER** mode mark blinks.

\* When the set time is up, a warning sound beeps for 30 seconds. To stop it manually, press any of the buttons.

## ILLUMINATING LIGHT (Electroluminescent panel)



**E**



**E**

Turn on the illuminating light.

*\* The display panel is evenly illuminated for 3 seconds.*



# 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 2000 to 2099.
- Once the year, month and date have been set, the day of the week is automatically set.
- **Setting the seconds:**
  - With the second digits flashing, press button C or D in accordance with a time signal. The second digits are reset to "00".
- The flashing digits except the seconds and 12-/24-hour indication move quickly if button C or D is kept pressed.
- If the watch is left untouched with the digits flashing, it will automatically return to the TIME/CALENDAR mode in 1 minute.

## WORLD TIME MODE

- The time differences and use of daylight saving time may change in some areas or countries when they are so decided by the countries concerned.

## ALARM MODE

### [ALARM TIME SETTING]

- The flashing digits move quickly if button C or D is kept pressed.

- If the watch is left untouched with the digits flashing, it will automatically return to the ALARM mode in 1 minute.
- When the time function is displayed in the 24-hour indication, the alarms are also displayed in the 24-hour indication.

### [ALARM ENGAGEMENT/DISENGAGEMENT]

- When any one of the alarms is engaged, the alarm mark is displayed.

### STOPWATCH MODE

- After 24 hours have been measured, the stopwatch continues measuring from "00".
- Restart and stop of the stopwatch can be repeated by pressing button C and button D, respectively.
- Lap time measurement can be repeated by pressing button C.
- The lap number counts up to "99".
- The lap time measured remains displayed for 5 seconds together with the flashing lap number. Then, the display automatically returns to the measurement in progress.



- If the digits are reset to "00" in the stopwatch measurement, all the stored data will be erased from memory.

- 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 as the battery energy is consumed enormously to shorten the battery life.

## **TIMER MODE**

### **[TIMER SETTING]**

- The flashing digits move quickly if button C or D is kept pressed.
- If the watch is left untouched with the digits flashing, it will automatically return to the TIMER mode in 1 minute.

### **[TIMER OPERATION]**

- Restart and stop of the timer can be repeated by pressing button C.
- Even if the TIMER mode is changed to another while the measurement is in progress, it continues counting properly. After the timer is used, however, be sure to reset it as the battery energy is consumed enormously to shorten the battery life.

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

- The electroluminescent panel loses its luminance as the battery voltage gets lowered. Also, its luminance level decreases gradually with use.
- When the illuminating light becomes dim, replace the battery with a new one. If the 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. 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.

## BATTERY CHANGE

**2**  
**Years**

**Battery life : Approx. 2 years**

**Battery : SEIKO CR2025**

- *The battery life may be less than 2 years if the alarm is used more than once a day and/or the illuminating light more than 3 times a day.*
- *As 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.*
- *We recommend that you contact an AUTHORIZED PULSAR DEALER for battery replacement.*

### ● **Necessary procedure after battery change**

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

**Press and hold buttons A, B, C and D at the same time for 2 to 3 seconds. "SAT 1-01 '00 12:00 00" will be displayed when the buttons are released.**

*\* Before using the watch, set the time/calendar and 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.
- Never short-circuit, tamper with or heat the battery, and never expose it to fire. The battery may burst, become very hot or catch fire.



## **CAUTION**

- 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

### ● Non-water resistant



- If the watch becomes wet, have it checked by an **AUTHORIZED PULSAR 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 the water resistant 5 bar watch, or taking a bath with the 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 PULSAR 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 -5° C (+23° F) may cause a slight time loss or gain or battery leakage or shorten the battery life. Also, the liquid crystal panel may decrease in contrast, and the electroluminescent light may illuminate for a shorter period of time.

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

## MAGNETISM



Your watch will not be affected by magnetism.

## CARE OF CASE AND BRACELET



To prevent possible rusting of the case and bracelet caused by dust, moisture and perspiration, wipe them periodically with a soft dry cloth.

## SHOCKS & VIBRATION



Light activities will not affect your watch, but be careful not to drop your watch or hit it against hard surfaces, as this may cause damage.

## 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.

## PERIODIC CHECK



It is recommended that the watch be checked once every 2 to 3 years. Have your watch checked by an **AUTHORIZED PULSAR 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.