

SEIKO

ANALOGUE QUARTZ

Cal. 7T52

1/100 SEC. CHRONOGRAPH

SEIKO QUARTZ

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GEBRAUCHSANWEISUNGEN (S. 66)

You are now the proud owner of a SEIKO Analogue Quartz Watch Cal. 7T52. For best results, please read the instructions in this booklet carefully before using your SEIKO Analogue Quartz Watch. Please keep this manual handy for ready reference.

Vous voici l'heureux propriétaire d'une montre quartz analogique SEIKO Cal. 7T52. Pour obtenir d'excellentes performances de cette article SEIKO, veuillez lire attentivement cette brochure que vous conserverez pour toute référence ultérieure.

Enhorabuena por su adquisición de un reloj SEIKO analógico de cuarzo Cal. 7T52. Para óptimo resultado, lea detenidamente las instrucciones de este folleto antes de usar el reloj. Guarde este manual para consulta posterior.

Sie sind jetzt Besitzer einer SEIKO Analog-Quarzuhr Cal. 7T52. Bitte lesen Sie diese Bedienungsanleitung vor Verwendung der Uhr sorgfältig durch und haben Sie sie gut auf.

Siete ora in possesso di un orologio SEIKO Analogico al Quarzo Cal. 7T52. Per ottenere i migliori possibili risultati dal Vostro orologio, leggere attentamente le istruzioni di questo manuale prima di utilizzare il Vostro orologio SEIKO analogico al quarzo. Conservare poi il manuale stesso per ogni qualsiasi eventuale futuro riferimento.

Você pode sentir-se orgulhoso de possuir um Relógio SEIKO Quartz Análogo Cal. 7T52. Para obter os melhores resultados, leia atentamente as instruções contidas neste opusculo antes de usar o seu Relógio SEIKO Quartz Análogo. Queira conservar este manual para referências futuras.

您現在已經有一隻，機件編號為7T52的精工牌指針式石英錶。在使用的精工牌指針式石英錶以前，務請注意閱讀這本小冊子中的各項說明，並請將本冊妥加保管，以便隨時參考。

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SEIKO ANALOGUE QUARTZ
1/100 SEC. CHRONOGRAPH

Cal. 7T52

FEATURES

SEIKO Quartz Watch Cal. 7T52 is an analogue watch featuring a stopwatch with a 1/100 second hand .

■ MAIN TIME

Hour and minute hands with a small second hand.

■ CALENDAR

Date is displayed in numerals.

■ STOPWATCH

It can measure up to 12 hours in 1/100 second increments.

■ BATTERY LIFE INDICATOR

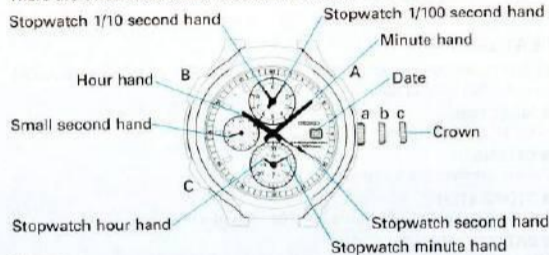
The small second hand moves at two-second intervals when the battery needs to be replaced.

■ TACHYMETER

Some models are provided with a tachymeter with a graduated dial.

DISPLAY AND CROWN OPERATION

There are three buttons and a crown as shown in the illustration below.



Crown

- (a) Normal position : Free
- (b) First click : Date setting by turning the crown clockwise
- (c) Second click : Main time setting
Adjusting the stopwatch hand position

MAIN TIME SETTING



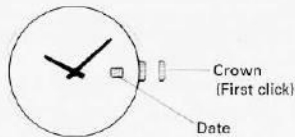
1. Pull out the crown all the way to the second click when the small second hand is at the 12 o'clock position.
2. Turn the crown to set the the hour and minute hands to the desired time.
3. Push the crown back in to the normal position in accordance with a time signal.

Notes:

1. When setting the minute hand, advance it 4 to 5 minutes ahead of the desired time and then turn it back to the exact time.

- When setting the hour hand, check that AM/PM is correctly set. Turn the hour hand past the 12 o'clock marker to determine whether the watch is set for the A.M. or P.M. period. If the date changes to the next, the time is set for the A.M. period. If it does not change, the time is set for the P.M. period.
- If the stopwatch is measuring and the crown is pulled out to the second click to set the time, the stopwatch hands are reset to "0" position.

CALENDAR SETTING



- Pull out the crown to the first click.
- Turn the crown clockwise till the date of the previous day appears.
- Pull out the crown to the second click, and advance the hour and minute hands till the desired date appears. Then, reset the time as described in "MAIN TIME SETTING".
- Push the crown back in to the normal position.

Note: Do not set the date between 9:00 p.m. and 1:00 a.m. Otherwise, the date may not change properly. If it is necessary to set the date during that time period, first set the hour hand to any time outside this period, set the date and then reset the hour hand to the correct time.

STOPWATCH

The stopwatch can measure up to 12 hours in 1/100 second increments. After 12 hours, it will start counting again from "0" and automatically stops counting when the measurement reaches 24 hours.

How to read the stopwatch hands

Ex.) 9 hours 12 minutes 22 seconds 73

Stopwatch 1/10 second hand

Stopwatch 1/100 second hand

Stopwatch second hand

Stopwatch hour hand

Stopwatch minute hand



* The stopwatch minute hand turns a full circle in 30 minutes. When reading the hand, therefore, check the position of the stopwatch hour hand. This will enable you to confirm, for example, whether 10 minutes or 40 minutes have passed.

* The stopwatch 1/10 second and 1/100 second hands move for 3 minutes after the measurement is started or restarted and after the split time is released. Thereafter, they stay at "0" position while the stopwatch is counting. When the measurement is stopped or split time is measured, they indicate the 1/10 seconds and 1/100 seconds measured.

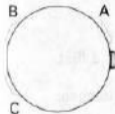
Stopwatch operation

* Before using the stopwatch, be sure to reset the hands to "0" position. When the stopwatch is measuring, press "A" to stop the measurement and then press "B" to reset the hands.

* If the stopwatch hands do not return to "0" position, reset them following the procedure in "ADJUSTING THE HAND POSITION".

1. Standard measurement

To start : Press "A".
To stop : Press "A".
To reset : Press "B".



2. Accumulated elapsed time measurement

To start : Press "A".
To stop : Press "A".
To restart : Press "A".

To stop : Press "A".

* Restart and stop of the stopwatch can be repeated by pressing "A".

To reset : Press "B".

3. Split (intermediate) time measurement

To start : Press "A".

To measure split time : Press "B".

To release split time : Press "B".

* Measurement and release of the split time can be repeated by pressing "B".

To stop : Press "A".

To reset : Press "B".

4. Measurement of two competitors

To start : Press "A".

To measure the finish time of the first competitor : Press "B".

When the second competitor finishes:
Press "A".

To measure the finish time of the second competitor : Press "B".
To reset : Press "B".

Notes:

1. Use the stopwatch with the crown at the normal position.
2. If the crown is pulled out to the second click while the stopwatch is in use, the stopwatch hands are reset to "0" position.
3. After the stopwatch has been reset, if "A" is pressed before the hands reach "0" position, the stopwatch still starts counting from the time "A" is pressed.

Demonstration movement of the stopwatch hands

Check that the stopwatch hands are reset to "0" position.

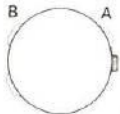
If "C" is pressed for 2 seconds with the crown at the first click, the stopwatch hands start to show the demonstration movement.

* To stop the demonstration, push the crown back in to the normal position or press "A", "B" or "C".

* If the watch is left untouched with the hands showing the demonstration movement, the hands will automatically stop the demonstration in 40 seconds.

HOW TO USE THE TACHYMETER

(For the models with a tachymeter scale on the dial)



- Use the tachymeter with the stopwatch.
Stopwatch operation (Standard measurement)
To start : Press "A".
To stop : Press "A".
To reset : Press "B".

The tachymeter can be used for the following purposes.

(1) To measure the hourly average speed of a vehicle

- Use the stopwatch to determine how many seconds it takes to go one kilometer (or one mile). The tachymeter scale indicated by the stopwatch second hand gives the average speed per hour.
* Please note that the tachymeter scale can be used only when the time required is less than 60 seconds. If it exceeds 60 seconds, shorten the measuring distance. (Refer to "Ex. 2" below)



Ex. 1)

If it takes 40 seconds to go one kilometer (or one mile), the stopwatch second hand indicates "90" on the tachymeter scale. This means that the average speed of the vehicle is 90 kilometers (or miles) per hour.

$$90 \left(\begin{array}{l} \text{Tachymeter scale figure} \\ \text{at 40 seconds position} \end{array} \right) \times 1 \text{ (Kilometer or mile)} \\ = 90 \text{ Km/h (mph)}$$

Ex. 2)

If the measuring distance is extended to 2 kilometers (or miles) or shortened to 0.5 kilometers (miles), multiply the figure on the tachymeter scale by 2 or 0.5, respectively. We recommend that you utilize the tachymeter in a rally, speedway or circuit race.

$$90 \left(\begin{array}{l} \text{Tachymeter scale figure} \\ \text{at 40 seconds position} \end{array} \right) \times 2 \text{ (Kilometers or miles)} \\ = 180 \text{ Km/h (mph)}$$

$$90 \left(\begin{array}{l} \text{Tachymeter scale figure} \\ \text{at 40 seconds position} \end{array} \right) \times 0.5 \text{ (Kilometers or miles)} \\ = 45 \text{ Km/h (mph)}$$

(2) To measure the hourly rate of operation

The tachymeter is extremely useful in calculating factory operation efficiency or machine production amount.

Ex. 1)

Use the stopwatch to measure the time required to complete one job.

If it takes 20 seconds, the stopwatch second hand indicates "180" on the tachymeter scale. This means that 180 jobs will be accomplished in one hour.

$$180 \left(\begin{array}{l} \text{Tachymeter scale figure} \\ \text{at 20 seconds position} \end{array} \right) \times 1 \text{ job} = 180 \text{ jobs}$$

Ex. 2)

Use the stopwatch to determine how many jobs are accomplished in a specific period of time.

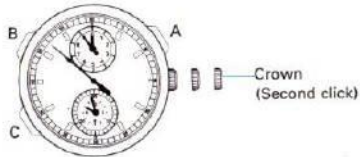
If 15 jobs are completed in 20 seconds, multiply "180", the figure on the tachymeter scale indicated by the stopwatch second hand, by 15. Thus, it is estimated that 2,700 jobs will be accomplished in one hour.



$$180 \left(\begin{array}{l} \text{Tachymeter scale figure} \\ \text{at 20 seconds position} \end{array} \right) \times 15 \text{ jobs} \\ = 2,700 \text{ jobs per hour}$$

ADJUSTING THE HAND POSITION

If the stopwatch hands do not return to "0" position when the stopwatch is reset, follow the procedure below to reset the hands.

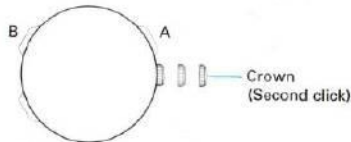


1. Pull out the crown to the second click.
2. Press "A" repeatedly to reset the stopwatch 1/10 second and 1/100 second hands to "0" position.
3. Press "B" repeatedly to reset the stopwatch second hand to "0" position.
4. Press "C" repeatedly to reset the stopwatch hour and minute hands to "0" position.
5. Push the crown back in to the normal position.
6. Set the desired time following the procedure in "MAIN TIME SETTING".

Note: The hands move quickly if the respective buttons are kept pressed.

NECESSARY PROCEDURE AFTER BATTERY CHANGE

When the battery is replaced with a new one or the watch hands move improperly, follow the procedure below.



1. Pull out the crown to the second click.
2. Press "A" and "B" at the same time.
3. Reset the stopwatch hands to "0" position and then set the desired time. (Refer to "ADJUSTING THE HAND POSITION" and "MAIN TIME SETTING")

BATTERY LIFE INDICATOR

The battery needs to be replaced when you see the small second hand moving at two-second intervals instead of the normal one-second intervals. The watch will, however, remain accurate while the second hand is moving at two-second intervals.

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, 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 possible malfunction. For battery replacement, we recommend that you contact an AUTHORIZED SEIKO DEALER and request **SEIKO SR927W** battery.

Note: If the stopwatch is used for more than 1 hour a day, the battery life may be less than the specified period.

TO PRESERVE THE QUALITY OF YOUR WATCH

■ WATER RESISTANCE



• Non-water resistance

If "WATER RESISTANT" is not inscribed on the case back, your watch is not water resistant, and care should be taken not to get it wet as water may damage the movement. If the watch becomes wet, we suggest that you have it checked by an AUTHORIZED SEIKO DEALER or SERVICE CENTER.



• Water resistance (3 bar)

If "WATER RESISTANT" is inscribed on the case back, your watch is designed and manufactured to withstand up to 3 bar, such as accidental contact with splashes of water or rain, but it is not designed for swimming or diving.



• Water resistance (10 bar/15 bar)

If "WATER RESISTANT 10 BAR" or "WATER RESISTANT 15 BAR" is inscribed on the case back, your watch is designed and manufactured to withstand up to 10 bar/15 bar and is suitable for swimming and shallow diving, but not for scuba diving. We recommend that you wear a SEIKO Diver's watch for scuba diving. If used in sea water, rinse the watch in fresh water and dry it completely.

Do not operate the crown and buttons in water.

NOTE:

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.

**■ TEMPERATURES**

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

Temperatures over 60°C (140°F) may cause battery leakage or shorten the battery life.

Do not leave your watch in very low temperatures below -10°C (+14°F) for a long time since the cold may cause a slight time loss or gain.

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

**■ 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.

**■ MAGNETISM**

Your watch will be adversely affected by strong magnetism. Keep it away from close contact with magnetic objects.

**■ CHEMICALS**

Be careful not to expose the watch to solvents (e.g., alcohol and gasoline), mercury (i.e., from a broken thermometer), 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 corrosion of the case and bracelet caused by dust, moisture and perspiration, wipe them periodically with a soft dry cloth.

**■ 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. Otherwise, perspiration getting in under them may rust the case back.

**■ 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, crown, gasket and crystal seal remain intact.

SPECIFICATIONS

- | | |
|--|---|
| 1. Frequency of crystal oscillator | 32,768 Hz (Hz = Hertz ... Cycles per second) |
| 2. Loss/gain (monthly rate) | Less than 15 seconds at normal temperature range (5°C ~ 35°C) (41°F ~ 95°F) |
| 3. Operational temperature range | -10°C ~ +60°C (14°F ~ 140°F) |
| 4. Driving system | Step motor, 4 pieces |
| 5. Display system | |
| Time | Hour and minute hands with a small second hand |
| Calendar | Date displayed in numerals |
| Stopwatch | Stopwatch hour, minute, second, 1/10 second and 1/100 second hands.
The stopwatch can measure up to 12 hours in 1/100 second increments. |
| 6. Battery | SEIKO SR927W, 1 piece |
| 7. Battery life indicator | |
| 8. IC (Integrated Circuit) | C-MOS-LSI, 1 piece |

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

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