

SEIKO DIGITAL STOPWATCH Cal. S141

You are now the proud owner of a SEIKO Digital Stopwatch Cal. S141. For best results, please read the instructions in this booklet carefully before using your SEIKO Digital Stopwatch. Please keep this manual handy for ready reference.

WARNING

NOTES ON THE BATTERY FOR THE STOPWATCH

- 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, 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.

NOTES ON THE STRAP

- The stopwatch has a strap for wearing it around your neck. Take good care lest it should be caught by something near you or wind around your neck.
- Please also note that the strap may damage your clothes, or injure your hands, neck or other parts of your body.

TO PRESERVE THE QUALITY OF YOUR STOPWATCH



WATER RESISTANCE (10 bar)

Your stopwatch is designed and manufactured to withstand up to 10 bar, and is suitable for taking baths and shallow diving, but not for scuba diving. Do not operate the buttons when the stopwatch is wet or in water. If used in sea water, rinse the stopwatch in fresh water and dry it completely. When bathing with your stopwatch, be sure to observe the following:

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



TEMPERATURES

If the stopwatch is left in direct sunlight for a long time, the display may become black, but this condition will be corrected when the stopwatch returns to normal temperature. Do not leave your stopwatch in very low temperatures below -10°C (+14°F) for a long time since the cold may cause:

- a. a slight time loss or gain.
- b. the change of digits to become slow.
- c. the display light to dim.

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



SHOCKS

Do not subject it to violent shocks.



MAGNETISM

Your stopwatch will not be affected by magnetism.



CHEMICALS

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



PERIODIC CHECK

It is recommended that the stopwatch be checked once every 2 to 3 years. Have your stopwatch 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 stopwatch has a protective film and/or a sticker on the case back, be sure to peel them off before using it.



STATIC ELECTRICITY

The IC (Integrated Circuit) used in your stopwatch will be affected by static electricity which may disturb the display. Keep your stopwatch 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 7 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).

FEATURES

SEIKO Cal. S141 is a digital stopwatch featuring memory and stroke/frequency measuring functions. In addition, it is water resistant and withstands up to 10 bar. Therefore, it is suitable for aquatic sports or use in rainy weather.

STOPWATCH

The stopwatch can measure up to 10 hours in 1/100 second.

SPLIT TIME/LAP TIME MEASUREMENT

Up to 300 split times and lap times can be measured.

LARGE-SIZED THREE-ROW DISPLAY PANEL

Total elapsed time/lap time in progress, split time and lap time are displayed at the same time in separate rows, and they can be measured successively without releasing split or lap time measurement.

STROKE/FREQUENCY MEASURING FUNCTION

The stroke/frequency of an activity per minute is automatically calculated only by measuring the time required to make three strokes. Up to 9 data can be stored in memory.

DUAL MEMORY MODE

Single memory mode Up to 300 lap/split time data can be stored and recalled either during or after measurement.

Block memory mode A sequence of measurement data obtained from race start to finish is recorded as a "block." Up to 100 blocks of data can be stored in memory without deleting the previous data.

Memory capacity indicator and fastest lap time recall functions are also provided. Even if the stopwatch is reset, the times stored in memory will not be erased and can be recalled as desired.

ID NO. FUNCTION

Besides the time and calendar, identification numbers can be set. It is useful for keeping the data of individual users separately.

ANTIBACTERIAL CASE

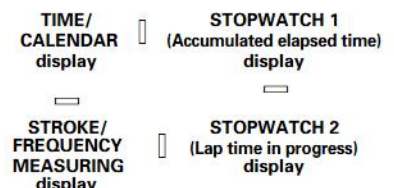
An antibacterial agent is applied to the case surface of the stopwatch.

* It loses its antibacterial effect gradually over time and the effective period differs depending on the conditions of use.



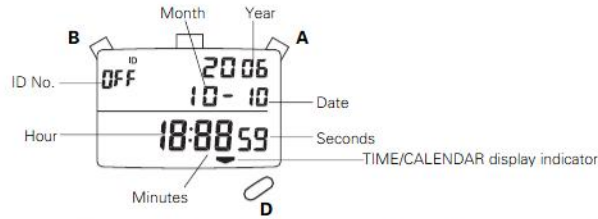
CHANGEOVER OF DISPLAYS

- With each press of "D," the display changes in the following order.

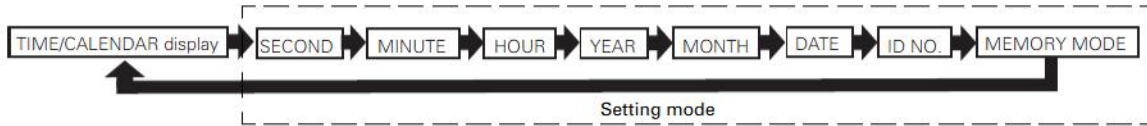


TIME/CALENDAR SETTING

Before setting the time/calendar or ID No., be sure to reset the stopwatch to "00." The time/calendar and ID No. can be set only when the stopwatch is reset.



- Press "D" to show the TIME/CALENDAR display, and then press "B." SECOND digits flash. Press "A" to reset the SECOND to "00."
- Press "B" repeatedly to select the digits (flashing) to be adjusted in the following order.



- Press "A" to set the digits. The digits move quickly if the button is kept pressed.
- Press "B" to return to the TIME/CALENDAR display.

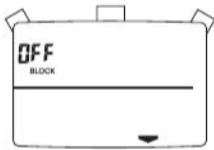
Notes:

- The calendar automatically adjusts for odd and even months including February of leap years from 2006 to 2055.
- When the SECOND reads any number from "30" to "59" and "A" is pressed, one minute is added.
- The time is displayed in the 24-hour indication.
- The ID No. can be set in two digits from "01" to "99". When "OFF" is displayed, it indicates that no ID No. is set.
- To change the memory mode, press and hold "A" for 1.5 seconds.

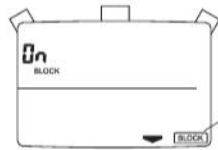
When "OFF" is displayed above "BLOCK," the stopwatch is in the single memory mode, which is the default setting.

When "ON" is displayed above "BLOCK" and the BLOCK mark appears at the bottom right, the stopwatch is in the block memory mode, which is designed for professional level use.

Refer to MEMORY RECALL FUNCTION--BLOCK MEMORY MODE on page 3.



Single memory mode



Block memory mode

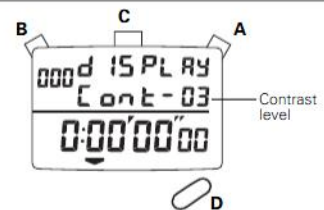
CAUTION

Change of memory mode will delete all the previously stored data.

ADJUSTING THE CONTRAST ON THE DISPLAY

The contrast of the liquid crystal display can be adjusted in 10 steps from level "1" to "10."

- Press "C" in the TIME/CALENDAR display to show the CONTRAST ADJUSTMENT display.
- Press "A" or "B" repeatedly to adjust the contrast. The display becomes darker by pressing "A" and lighter by pressing "B."
- Press "C" or "D" to return to the TIME/CALENDAR display.



STOPWATCH

- Up to 300 lap/split time data can be stored in memory and recalled during or after measurement.
- The stopwatch can measure and display the lap/split time that exceeds its limit of 300, but it cannot store the data in memory for the 301st measurement data and afterward.

** When a new measurement is commenced while the stopwatch is in the single memory mode, the lap/split time data obtained from the previous measurement will be automatically deleted.*

- For professional level use, the default single memory mode can be changed to the block memory mode, in which commencement of a new measurement will not erase the previous measurement data. The block memory mode is useful for saving records or comparing data.

Refer to MEMORY RECALL FUNCTION--BLOCK MEMORY MODE on page 3.

Before using the stopwatch, be sure to reset the digits to "00."

When the stopwatch is stopped, press "B."

When the stopwatch is counting, press "A" and then press "B."

1. STANDARD MEASUREMENT

Press "D" to show the STOPWATCH 1 (Accumulated elapsed time) display.

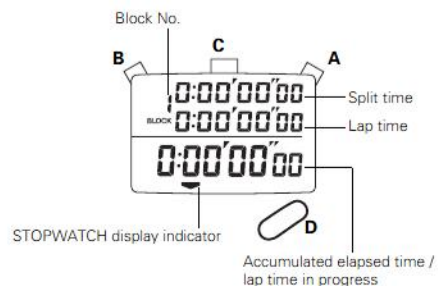


2. ACCUMULATED ELAPSED TIME MEASUREMENT

Press "D" to show the STOPWATCH 1 (Accumulated elapsed time) display.



** Restarting and stopping the stopwatch can be repeated by pressing "A."*

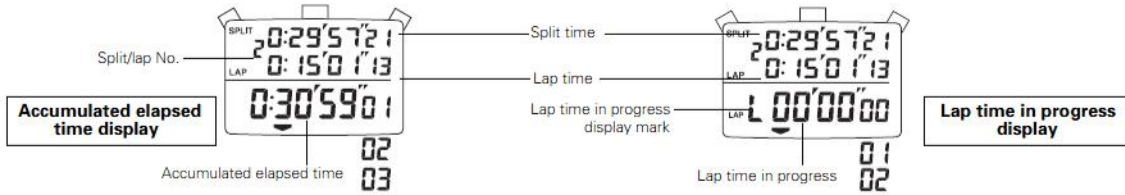
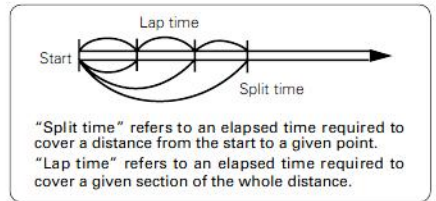


3. SPLIT/LAP TIME MEASUREMENT

- Press "D" to show the STOPWATCH 1 (Accumulated elapsed time) display or STOPWATCH 2 (Lap time in progress) display.



* The split/lap time can be measured repeatedly by pressing "B."



Notes:

- When the digits are reset to "00" by pressing "B," a new block number for the next measurement is displayed.
- In the lap time in progress display, when the lap time measurement in progress exceeds 1 hour, the hour digit appears in place of the mark for lap time in progress display.

MEMORY RECALL FUNCTION----- SINGLE MEMORY MODE

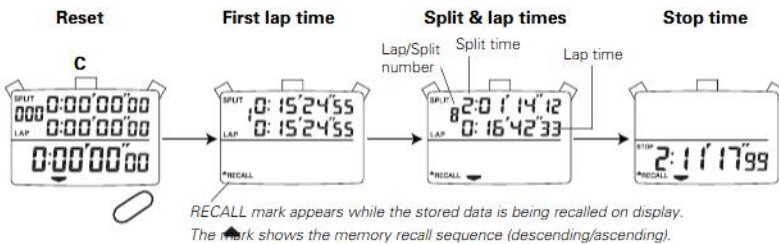
- Up to 300 lap/split time data of one measurement can be stored in memory and recalled on display.
- With each press of "C," the stored data is recalled. The data can be recalled successively one after another by keeping "C" pressed.
- The stored data can be recalled even during measurement (while the stopwatch is measuring).

Memory recall sequence

When the stopwatch is stopped, with each press of "C," the stored data will be recalled from the first (oldest) to the last (newest) data.
 When the stopwatch is measuring, with each press of "C," the stored data will be recalled from the last (newest) to the first (oldest).

MEMORY RECALL WHEN THE STOPWATCH IS STOPPED OR RESET

- With each press of "C," the data is recalled chronologically (starting from the first/oldest data).
 Ex.: When the stopwatch is reset to "00" after the measurement



• When a new measurement is commenced, the lap/split time data obtained from the previous measurement will be automatically deleted.

- The data can be recalled successively by keeping "C" pressed.
- To stop the recall of the data when the stopwatch is stopped, press "A," "B" or "D."
- To stop the recall of the data when the stopwatch is reset, press "A" or "D."

MEMORY RECALL FUNCTION----- BLOCK MEMORY MODE

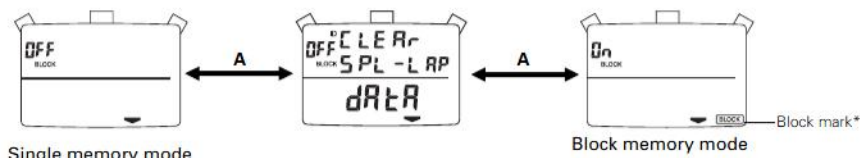
The Cal. 141 features a dual memory mode:

Single memory mode The single memory mode is the default-set mode. The lap/split time data of one measurement from start to stop can be stored. When the stopwatch is reset, and a new measurement is commenced, the lap/split time data of the previous measurement will be automatically deleted.

Block memory mode The block memory mode is an advanced mode designed for professional level use. A sequence of measurement data obtained from start to stop (or reset) is recorded as a "block." Up to 100 blocks of data can be stored in memory without deleting the previous data.

<How to change the memory mode>

- While in the TIME/CALENDAR display, press "B" 8 times until "BLOCK" appears on the display, above which either "ON" or "OFF" is flashing.
- Press "A" for 1.5 seconds until the memory mode changes with a long beep.

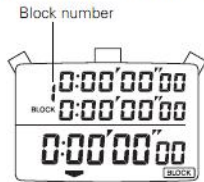


* When the block memory mode is selected, the BLOCK mark appears at the bottom right on the display regardless of the display mode.

Benefits of block memory mode

- Easy data management** The block number as well as starting time and date of measurement are automatically recorded and stored.
- Handy data storage** Creation of a new block of data will not erase the previous data in memory. While in the single memory mode, a new measurement will delete the latest measurement data.

When the stopwatch is reset while the block memory mode is selected, a new "block number" is assigned to the next sequence of data.



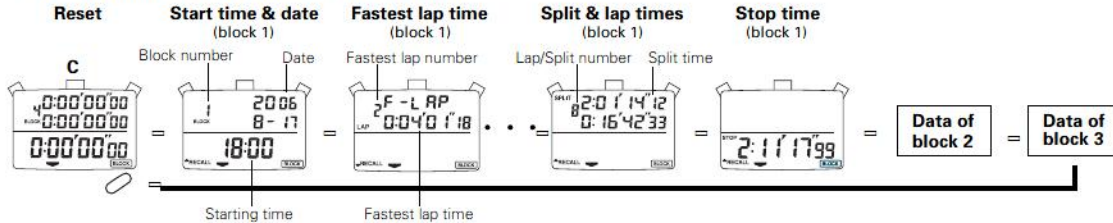
A block of data with a block number is automatically accompanied by the starting time and date of measurement, which is convenient for easy data management.

* A block of data contains at least three data components; block number, measured lap/split time(s), starting time and date. If more than one block of data is stored in memory, the memory may reach a capacity limit even before the total number of lap/split time measurement totals to 300.

1. MEMORY RECALL WHEN THE STOPWATCH IS STOPPED OR RESET

□ With each press of "C," the data is recalled chronologically (starting from the first/oldest data in block "1").

Ex.: When the stopwatch is reset to "00" in block 4



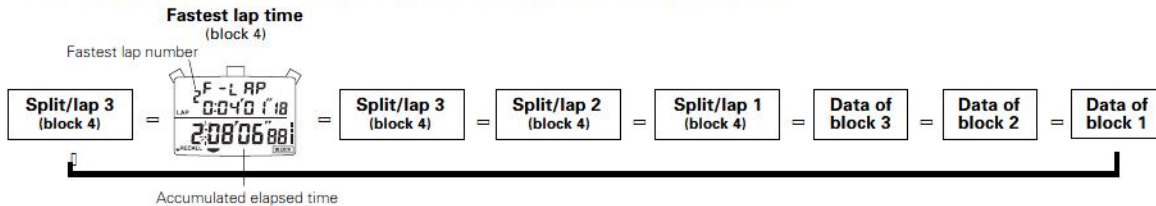
* The data can be recalled successively by keeping "C" pressed.

* To stop the recall of the data when the stopwatch is stopped, press "A", "B" or "D." To stop the recall of the data when the stopwatch is reset, press "A" or "D."

2. MEMORY RECALL WHEN THE STOPWATCH IS MEASURING

□ With each press of "C," the data is recalled starting from the last (newest) data.

Ex.: When the measurement of the third split/lap time in block "4" has been completed



* The data can be recalled successively by keeping "C" pressed.

* To measure the lap time and split time while the stored data are recalled, operate the buttons as follows.

Press "B" to measure new lap time and split time.

Press "A" to stop the measurement.

Press "D" to return to the measurement mode.

3. MEMORY CAPACITY INDICATOR

□ The number of data stored in memory is displayed graphically by the memory capacity indicator.

□ Each segment of the bar corresponds to 30 data.

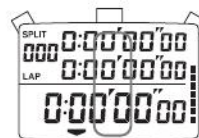
* When no segment is displayed, the stored data is less than 30.

□ When the memory reaches its full capacity, all the segments of the bar are displayed.

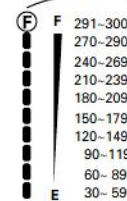
* The 301st data and those measured thereafter will be displayed but will not be stored in memory for later recall.

□ While the data is recalled, a segment of the bar flashes to indicate the measurement order of the data being recalled.

□ A block of data contains at least three data components; block number, measured lap/split time, starting time and date. If more than one block of data is stored in memory, the memory may reach a capacity limit even before the total number of lap/split time measurement totals to 300.



[Number of data in memory]



When the number of stored measurements exceeds 290, the letter "F" starts flashing. When the memory is at its full capacity, the letter "F" stops flashing and remains displayed.

4. HOW TO CLEAR THE STORED DATA

□ Once the following steps are taken, all the stored data are erased from memory. The stored data cannot be erased one by one or block by block.

□ Before clearing the data, check that the stopwatch is reset to "00."

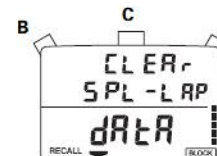
1. Press "C" to show the MEMORY RECALL display.

2. Keep "B" pressed for more than 1.5 seconds.

* While the button is kept pressed, the display shown at right appears with warning beeps.

* After 1.5 seconds, all the stored data is erased from memory with a long beep. Then, the initial measurement display is shown.

* Unless "B" is kept pressed for more than 1.5 seconds, the stored data will not be erased from memory.

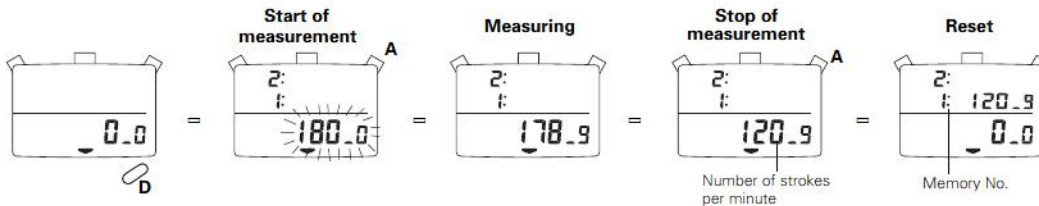


STROKE/FREQUENCY MEASUREMENT

- The stroke/frequency of an activity per minute is automatically calculated by measuring the time required to make three strokes.
- Measurable number of strokes per minute is between 10 and 180.
- Up to 9 data can be stored in memory.

1. HOW TO USE THE STROKE/FREQUENCY MEASURING FUNCTION

1. Press "D" to show the STROKE/FREQUENCY MEASURING display.
2. Press "A" to start the measurement.
3. Press "A" to stop the measurement after the third stroke was made.



Notes:

1. During the first second after the measurement has been started by pressing "A", flashing "180-0" is displayed. If the measurement is stopped by pressing "A" during the period, "Error" will appear. If the measurement is not stopped by pressing "A" after more than 18 seconds have elapsed, "Error" will automatically appear.
2. If "B" is pressed while the measurement is stopped or "Error" is shown, the digits will be reset to "0-0". Even if the digits are not reset to "0-0" with the measurement stopped or "Error" shown on the display, the measurement can be started by pressing "A."
3. When the digits are reset to "0-0" or a new measurement is started, the data measured last will be stored in Memory-1. When the new measurement is made, it will be stored in Memory 1 as the data in Memory-1 is transferred to Memory-2.
4. When more than 9 measurements are made, the oldest data will be erased from memory.



2. RECALL OF THE STORED DATA

- With each press of "C", the data is recalled starting from Memory-1.

* The data cannot be recalled while the measurement is being made.

3. HOW TO CLEAR THE STORED DATA

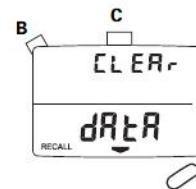
- Once the following steps are taken, all the stored data are erased from memory. The stored data cannot be erased one by one.

1. Press "C" to show the MEMORY RECALL display.
2. Keep "B" pressed for more than 1.5 seconds.

* While the button is kept pressed, the display shown at right appears with warning beeps.

* After 1.5 seconds, all the stored data is erased from memory with a long beep. Then, the initial measurement display is shown.

* Unless "B" is kept pressed for more than 1.5 seconds, the stored data will not be erased from memory.



BATTERY CHANGE

3
Years

The lithium battery which powers your watch should last approximately 3 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 SB-T74 battery.

* If the stopwatch is used for more than 3 hours a day, the battery life may be less than the specified period.

Battery life indicator

When the battery nears its end, a flashing battery mark "BATT" is displayed. In that case, have the battery replaced with a new one as soon as possible by the retailer from whom the stopwatch was purchased or an AUTHORIZED SEIKO DEALER.

* When the battery is replaced with a new one, all the stored data will be erased from memory.

SPECIFICATIONS

1. Frequency of crystal oscillator 32,768 Hz (Hz = Hertz ... Cycles per second)
2. Accuracy $\pm 0.0006\%$ at normal temperature range (5 °C - 35°C) (41°F - 95°F)
Less than 15 seconds per month
3. Operational temperature range -10°C - +60°C (14°F - 140°F)
4. Desirable temperature range of use 0°C - +50°C (32°F - 122°F)
5. Display system
 - Time/calendar display Hour (24-hour indication), minute, second, year (from 2006 to 2055), month, date, ID No. (OFF / 01 - 99)
CONTRAST ADJUSTMENT (1 - 10)
 - Stopwatch display Hour, minute, second, 1/100 second
Three-row display of split time, lap time, total elapsed time or lap time in progress
Number of blocks (1 - 999), Number of lap/split times (0 - 999), Memory capacity indicator (bar indicator)
 - Stroke/frequency measuring display Number of strokes (10 - 180 per minute, measurement time 1 to 18 seconds), Number of measurement (1 - 9)
6. Display medium Nematic Liquid Crystal, FEM (Field Effect Mode)
7. Battery Lithium battery SB-T74, 1 piece
8. Battery life Approximately 3 years (If the stopwatch is used for more than 3 hours a day, the battery life may be less than the specified period.)
9. IC (Integrated Circuit) C-MOS-LSI, 1 piece
10. Battery life indicator is available.

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