

# INSTRUCTIONS

for  
Cal. N945

## ■ CHARACTERISTICS

1. Time: Indicated by the hour, minute and 24-hour hands.
2. Date: Indicated by the date indicator (tail of the center hand).
3. Alarm: The alarm is set on a 24-hour basis and rings at the designated time for 15 seconds.
4. Stopwatch: It can measure up to 12 hours in 1/10 seconds.
5. Timer: Up to 60 minutes can be set in one-minute increments.
6. Dual time: The time of a different time zone can be displayed on a 24-hour basis with the dual time hand.
7. Tachymeter: Some models are provided with a tachymeter with a graduated dial.

## ■ DISPLAY, MODES, AND CROWN & BUTTON OPERATION

Stopwatch  
1/10 second hand  
Stopwatch/timer  
second hand  
(tip of the center hand)  
Hour hand  
24-hour hand  
Date numerals  
Date indicator  
(tail of the center hand)  
Minute hand  
Normal position  
First click  
Second click  
Crown  
Dual time hand  
Mode indicator  
A B

Selection of the mode is made by turning the crown at normal position clockwise or counter-clockwise as follows:

TIME mode  
(Alarm disengaged)  
TIME mode  
(Alarm engaged)  
ALARM mode  
"→ 0 ←" mode  
TIMER mode  
STOPWATCH mode

## ■ ADJUSTING THE HAND POSITION

Before setting the time, date and alarm, be sure to use the "→ 0 ←" mode to put all the hands other than the dual time hand in the 12 o'clock position.

- Turn the crown to set the mode indicator to "→ 0 ←".

If the hands do not return to the 12 o'clock position, reset them to the 12 o'clock position, following the procedure below.

Mode indicator  
Second click  
Crown  
First click  
A B

1. Pull out the crown to the first click.  
\* If the stopwatch or timer is counting, it will automatically be reset.
2. Depress button "A" or "B" to reset the stopwatch 1/10 second hand and the tip of the center hand to the 12 o'clock position.  
\* The stopwatch 1/10 second hand and the center hand move correspondingly and cannot be set independently.  
\* For both buttons, the hands move quickly if the respective buttons are kept depressed.
3. Pull out the crown to the second click.
4. Depress button "A" or "B" to reset the hour and minute hands to the 12 o'clock position and the 24-hour hand to "0" position.  
\* As the minute hand moves, the hour and 24-hour hands move correspondingly.  
\* When finally putting the minute hand to the 12 o'clock position, be sure to turn it clockwise by depressing button "A".  
\* For both buttons, the hands move quickly if the respective buttons are kept depressed.
5. Push the crown back in to the normal position.

## ■ HOW TO SET THE TIME

- Turn the crown to set the mode indicator to "TIME" or "TIME".

Hour hand  
24-hour hand  
Minute hand  
Second click  
Crown  
Mode indicator  
A B

1. Pull out the crown to the second click.  
The minute hand may stop on the spot or advance to the next minute marker and stop.
2. Depress button "A" or "B" to set the hour, minute and 24-hour hands to the desired time. The time can be set in one-minute increments.  
\* For both buttons, the hands advance quickly if the respective buttons are kept depressed.
3. Push the crown back in to the normal position in accordance with a time signal.

### Notes:

1. When setting the hour hand, check that the 24-hour hand is set properly.
2. As the hour and minute hands move, the 24-hour hand also moves correspondingly.
3. When the 24-hour hand turns clockwise or counter-clockwise past "0" position, the date indicator advances or moves back, respectively.

## ■ HOW TO SET THE DATE

The date is indicated by the date indicator (tail of the center hand).

- Turn the crown to set the mode indicator to "TIME" or "TIME".

Date indicator  
First click  
Crown  
Date numerals  
Mode indicator  
A B

1. Pull out the crown to the first click.
2. Depress button "A" or "B" to set the desired date.  
\* For both buttons, the date indicator moves quickly if the respective buttons are kept depressed.
3. Push the crown back in to the normal position.

### Notes:

1. While the crown is kept at the first click, the hour, minute and 24-hour hands stop moving, and when the crown is pushed in, the hands move to indicate the current time properly.
2. If the date has changed to the next while date setting is being made, the hour and minute hands will turn past the 12 o'clock marker as soon as the crown is pushed in, but the date indicator will not advance to the next.

### ■ HOW TO SET THE DUAL TIME

- Turn the crown to set the mode indicator to "TIME" or "TIME".

Minute hand  
First click  
Crown  
Dual time hand  
Mode indicator  
A B

1. Pull out the crown to the first click.
2. Turn the crown clockwise or counterclockwise to set the dual time hand to the time of the desired time zone.  
\* When setting the dual time hand, first advance it one hour ahead of the desired time and then turn it back to the exact hour.
3. Push the crown back in to the normal position.

#### Notes:

1. The minute hand also serves to indicate the minutes of the dual time.
2. When setting the dual time with the crown at the first click, do not depress button "A" or "B" as the date indicator will move.
3. When turning the crown to set the dual time hand, the hour and minute hands may move slightly. However, this will not affect time accuracy.
4. While the crown is kept at the first click, the hour, minute and 24-hour hands stop moving, and when the crown is pushed in, the hands automatically move to indicate the current time properly.

### ■ HOW TO USE THE ALARM

#### Alarm setting

- Turn the crown to set the mode indicator to "SET".

24-hour hand  
Hour hand  
Minute hand  
Second click  
Crown  
Mode indicator  
A B

1. Pull out the crown to the second click.
2. Depress button "A" or "B" to set the hour, minute and 24-hour hands to the desired alarm time.  
\* For both buttons, the hands move quickly if the respective buttons are kept depressed.
3. Push the crown back in to the normal position.

#### Notes:

1. When setting the hour hand, check that the 24-hour hand is set properly.
2. As the alarm hands move, the dual time hand moves correspondingly, retaining the time difference between the current time and dual time. Therefore, the alarm can also be set on the basis of the dual time display by turning the alarm hands to set the dual time hand to the desired alarm time.
3. While the alarm hands are moving to indicate the alarm time previously set, do not depress any one of the buttons as the hands will stop moving and the alarm will be set to the time that the hands indicate.

#### Alarm engagement/disengagement

- To engage the alarm, turn the crown to set the mode indicator to "TIME".  
\* The alarm rings at the designated time for 15 seconds. To stop it manually, depress button "A" or "B", or turn the crown to change the mode over to another.  
\* The alarm can be tested by keeping both buttons "A" and "B" depressed at the same time with the mode indicator at "TIME".
- To disengage the alarm, turn the crown to set the mode indicator to any mode other than "TIME".

### ■ HOW TO USE THE TIMER

#### Timer setting

- Turn the crown to set the mode indicator to "TIMER".

Second click  
Timer second hand  
Timer minute hand  
1/10 second hand  
Crown  
Mode indicator  
A B

1. Pull out the crown to the second click. The timer minute hand indicates the time previously set.
2. Depress button "A" or "B" to set the desired amount of time.  
\* For both buttons, the hand moves quickly if the respective buttons are kept depressed.
3. Push the crown back in to the normal position.

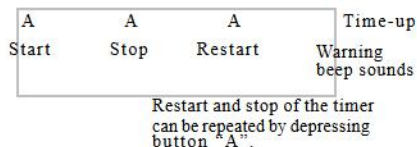
#### Notes:

1. If "0" minutes are set for the timer, it will not start.
2. Once the timer is set, the set time can be used repeatedly unless it is newly set.

#### Timer operation

- While in the "TIMER" mode, depress button "B" to register the time previously set.
- After the timer is set newly, it is not necessary to follow the above step.

Depress the buttons in the following order.



- \* If button "B" is depressed after the set time is up or while the timer is stopped, the timer is reset to the set time again.

#### [Swing movement of the 1/10 second hand]

- When 6 minutes or more are set for the timer, the 1/10 second hand moves back and forth every second while the second hand stops at "0" position.
- When the remaining time is 5 minutes or less, the 1/10 second hand turns a full circle every second, and the second hand turns counterclockwise at one-second intervals.

#### Notes:

1. When the remaining time is 3, 2 and 1 second, a warning beep sounds, and when the set time is up, it beeps for 2 seconds.
2. Even if the mode is changed from "TIMER" to another, the timer continues counting and the warning beep sounds in the manner described above.
3. While the timer is used, the dual time hand moves correspondingly with the hour hand but does not indicate the remaining time.

■ HOW TO USE THE STOPWATCH

- Turn the crown to set the mode indicator to "CHRONO."  
The hour, minute, stopwatch second and stopwatch 1/10 second hands return to "0" position, and the stopwatch 12-hour hand returns to "0" or "12" depending on which position it started from.

Stopwatch 1/10 second hand  
 Stopwatch second hand  
 Stopwatch 12-hour hand  
 Hour hand  
 Minute hand  
 Crown  
 Mode indicator  
 A B

- \* The stopwatch can measure up to 12 hours in 1/10 seconds.
- \* Even if the mode is changed from "CHRONO." to another while the stopwatch is measuring, it continues counting. However, if "→ Ø ←" mode is selected and the crown is pulled out, the measurement is canceled and the hands will be reset to "0" position, and when the split time is measured, it will be released by changing the mode.
- Before using the stopwatch, be sure to reset the stopwatch 12-hour hand to "0" or "12" position and the other hands to "0" position.  
When the stopwatch is measuring, depress button "A" to stop the measurement and then depress button "B" once.

|   |       |               |               |       |
|---|-------|---------------|---------------|-------|
| Standard measurement                            |       |               |               |       |
| A   |       | A             |               | B     |
| Start   |       | Stop          |               | Reset |
| Accumulated elapsed time measurement            |       |               |               |       |
| A   | A     | A             | A             | B     |
| Start   | Stop  | Restart       | Stop          | Reset |
| Accumulate repeatedly by depressing button "A". |       |               |               |       |
| Split time measurement                          |       |               |               |       |
| A   | B     | B             | A             | B     |
| Start   | Split | Split release | Stop          | Reset |
| Can repeat by depressing button "B".            |       |               |               |       |
| Measurement between two competitors             |       |               |               |       |
| Finish (First runner)                           |       |               |               |       |
| Finish (Second runner)                          |       |               |               |       |
| A   | B     | A             | B             | B     |
| Start   | Split | Stop          | Split release | Reset |

[Movement of the hands during measurement]

When more than 10 minutes have elapsed after the stopwatch is started, the second hand stops at "0" position, and the 1/10 second hand moves back and forth every second starting from "0" position, to indicate that the stopwatch is measuring.

- \* In that case, the hands will indicate the measured time immediately if the split time is measured or the stopwatch is stopped.
- Even when more than 10 minutes have elapsed, the 1/10 second hand and second hand are moving normally to show the elapsed time in the following cases.
  - When the mode is changed from another to the stopwatch mode.
  - When split time is released or measurement is restarted. In each case, the hands move normally for approximately 10 minutes.
- While the timer warning sound beeps, the stopwatch hands stop moving. However, the stopwatch continues correct measurement. Split time measurement and stop of the stopwatch are also possible.
- While the hands are moving automatically in the following cases, the stopwatch button operation can be made correctly.
  - After the stopwatch is reset;
  - After the mode is changed over to the stopwatch mode from another; and
  - After the split time is released.
- When measurement exceeds 12 hours, the hands stop at "0" position. If the split time is being measured and the measurement exceeds 12 hours, the hands will be reset to "0" position.

■ HOW TO USE THE TACHYMETER

(For the models with tachymeter scale)

- Use the tachymeter with the stopwatch.

STOPWATCH mode

Stopwatch operation (Standard measurement)

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

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.

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.

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.

Note: The tachymeter is also useful in calculating machine production amount per hour in a factory.

A B

■ NECESSARY PROCEDURE AFTER BATTERY CHANGE

- After the battery is changed with a new one or in case any one of the hands should move improperly, follow the procedure below to reset the circuit of the built-in IC.

1. Turn the crown to set the mode indicator to "TIME".
2. While depressing buttons "A" and "B" at the same time, turn the crown to set the mode indicator to "TIME" or "CHRONO.". The circuit of the built-in IC will be reset.

Note: Before using the watch, be sure to adjust the hand position in the "→ 0 ←" mode, and then set the time, date and alarm. (See "ADJUSTING THE HAND POSITION", "HOW TO SET THE TIME", "HOW TO SET THE DATE" and "HOW TO USE THE ALARM".)

A B  
Crown  
Mode indicator

■ BATTERY CHANGE

The miniature battery SEIKO SR927W, MAXELL SR927W, SONY SR927W or EVEREADY 399, which powers your watch should last approximately 2 years. However, because the battery is inserted at the factory, the actual life of the battery once in your possession may be less than 2 years. Be sure to replace the battery to prevent any possible malfunction as soon as it runs down. To replace the battery, we recommend taking the watch to a local watch repair shop.

Note: If the stopwatch is used for more than 5 minutes a day, the timer for more than 5 minutes a day and/or the alarm for more than 15 seconds a day, the battery life may be less than the specified period.

■ HOW TO ADJUST BAND LENGTH

- Sliding clasp band

1. Pry up the adjusting flap with a small screwdriver or something with a sharpened tip.
2. Slide the clasp to adjust it to a desired size.
3. Close the adjusting flap.

■ CARE AND SERVICE OF YOUR LORUS WATCH

1. Care:

• WATER RESISTANT

Your watch is classified into one of the following four groups by the degree of water resistance. Please read the appropriate item below for proper use.

If your watch is water resistant, "WATER RESISTANT" is shown on the back of your watch case. If your watch is 100m or 50m water resistant, it is so indicated on the dial. If your watch is non-water resistant, there is no such indication. Water resistant: These watches are designed to withstand accidental contact with water, for example, splashes or rain, but should not be worn while swimming or diving.

Water resistant (50m): These watches are suitable for swimming and can be worn in the shower, but not for diving.

Water resistant (100m): These watches are suitable for swimming or skin diving (without heavy breathing apparatus), but not for scuba diving.

Non-water resistant: Care should be taken not to get your watch wet as water may damage the movement.

- Do not depress any buttons or turn the crown when the watch is wet.
- If the watch is exposed to salt water, rinse it in fresh water and then wipe it thoroughly dry.

• ANTI-MAGNETIC

Your watch will not be affected by magnetism generated by household electric appliances.

• ANTI-SHOCK

Your watch may be worn for normal sports activities, but be careful not to drop it or hit it on hard surfaces.

• TEMPERATURE

Your watch is preadjusted that constant accuracy may be insured at normal temperature.

2. Service:

If your LORUS watch requires repair or servicing, send it to the Authorized Lorus Service Center below:

COSERV  
P.O. Box 677  
Mahwah, NJ 07430

For local repair service in California, please consult the Yellow Pages of your local telephone directory.

When you send your Lorus watch for service under warranty to the address above, please enclose a \$4.00 check or money order (payable to COSERV) to cover the cost of handling.

- Because of possible loss, we recommend insuring your watch when using the mails.

Never include a special watchband or gift box in your shipment.

- As a convenience in obtaining service at the Authorized Lorus Service Center listed above, participating Lorus retailers will be pleased to provide you with a free, pre-addressed Watch Service Mailer.

Please complete, detach, and enclose

Date of purchase

The dealer is required to endorse this guarantee before it becomes valid.

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Instruction & Warranty Booklet

MEN'S ANALOGUE  
ALARM CHRONOGRAPH  
RWF Series (Cal. N945)