

***TECHNICAL  
INFORMATION***

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**CITIZEN QUARTZ**

**Cal. No. 924 ※ ※**

 **CITIZEN**

## § 1. OUTLINE



This is a digital quartz watch for gentlemen, featuring the glass vibrating method applied to the alarm as well as a slim and smart design. Furthermore, a reasonable price is realized with this watch in spite of its multiple functions.

## § 2. FEATURES

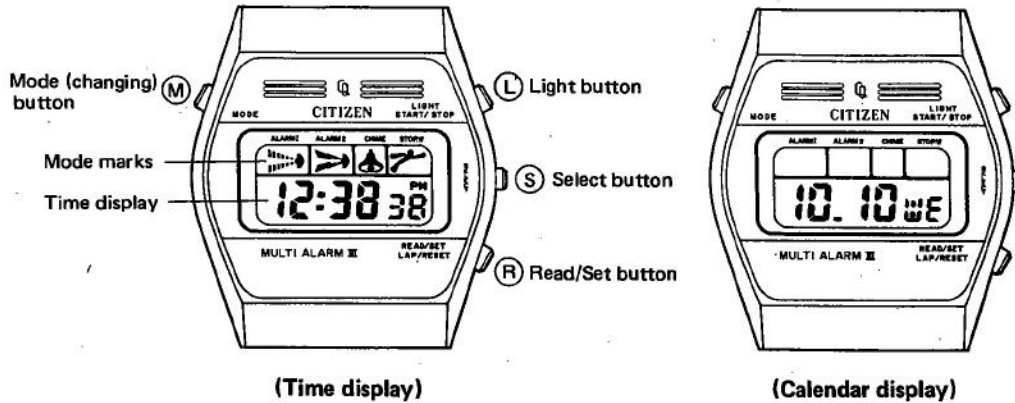
- 1) With adaption of the glass vibrating method of alarm along with the compact appearance design, the thickness of the movement has been reduced even more down to 3.95mm for the multi-function digital watch with alarm.
- 2) An independent use is possible among four functions: alarm-I, alarm-II, chime and stopwatch. The "service marks" (mode marks) facilitate at a glance knowing of set or non-set for each function under the time display. The symbols "ON" and "OF" show the set or cancel of functions in each mode.
- 3) The following sound-related functions are available: two alarms featuring different tones; the chime which gives the buzzer sound twice every hour on the hour; the sound which confirms the start/stop with every operation of (L) button; and the sound monitor which confirms the electronic tone at the time display.
- 4) For the stopwatch function, the display method for the level of 1/100 sec. draws like an oblong and then the timing is shown in figures on the screen at the end of timing.
- 5) The selection is possible between the 12-hour and 24-hour displays in correction of the time display. And the displays of two alarms are linked to the 12/24-hour display of the time mode.
- 6) The following devices are added.
  - Fully automatic calendar (including leap year) (The years can be set in the cycle of 1970~ 2009.)
  - Power cell life indicator (The colon of the time display flashes when the life of the power cell comes near its end.)
  - Illumination lamp (For facilitated reading of the display information on the screen in the dark)

§3. SPECIFICATIONS

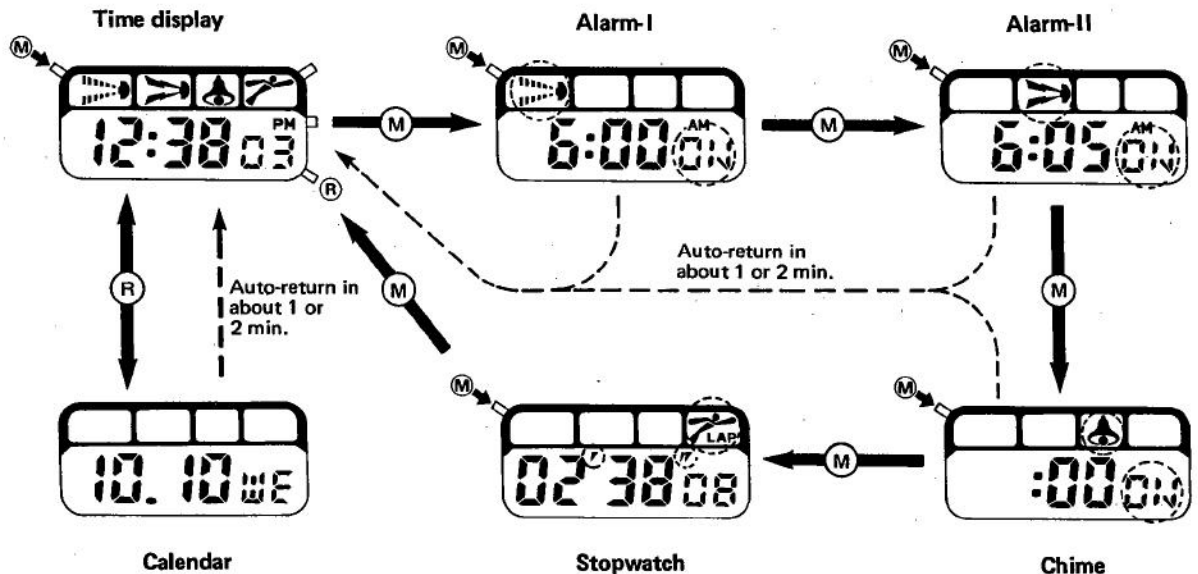
Caliver No.		9240A
Type		Digital-type quartz crystal watch (LC display)
Movement		Size: 27.1mmφ
		Thickness: 3.95mm
Oscillation		32,768 Hz
Accuracy		±15 sec./month at normal temperatures
Display method		FE twist-type nematic LC display (Matrix driving)
Display information	Time	"Hour" (switching between 12-hour with AM/PM and 24-hour displays at setting time), "minute" and "second"
	Calendar	"Month", "date", "day" and "year" (at setting time)
	Alarm-I	"Hour", "minute" and "AM/PM" } linking to time system of time display with no display of "AM/PM" in 24-hour display
	Alarm-II	
	Time signal	":00" minute
	Stopwatch	"Minute", "second", "1/100 sec." and "lap" mark (Continuous timing possible up to 59'59"99)
Correction of display		Independent correction for each digit by push-button operation
Effective temperature range		0°C ~ +60°C (+32°F ~ 140°F)
Integrated circuit		C/MOS-LSI (1 unit)
Additional functions		<ul style="list-style-type: none"> <li>●Alarm-I</li> <li>●Alarm-II</li> <li>●Chime</li> <li>●Stopwatch</li> <li>●12-/24-hour display switch</li> <li>●Fully automatic calendar (Including leap year)</li> <li>●Power cell life indicator</li> <li>●Instant manual return</li> <li>●Alarm monitor</li> <li>●Illumination lamp</li> </ul>
Power cell		Silver oxide power cell (1 unit) Parts No. : 280-13 Nominal voltage : 1.55V Capacity : 45mAH Size : 7.9mmφ x 3.6mm Life : About 2 years

## § 4. HANDLING INSTRUCTIONS

### 1) Name of each parts



### 2) Display switching (Each mode set)



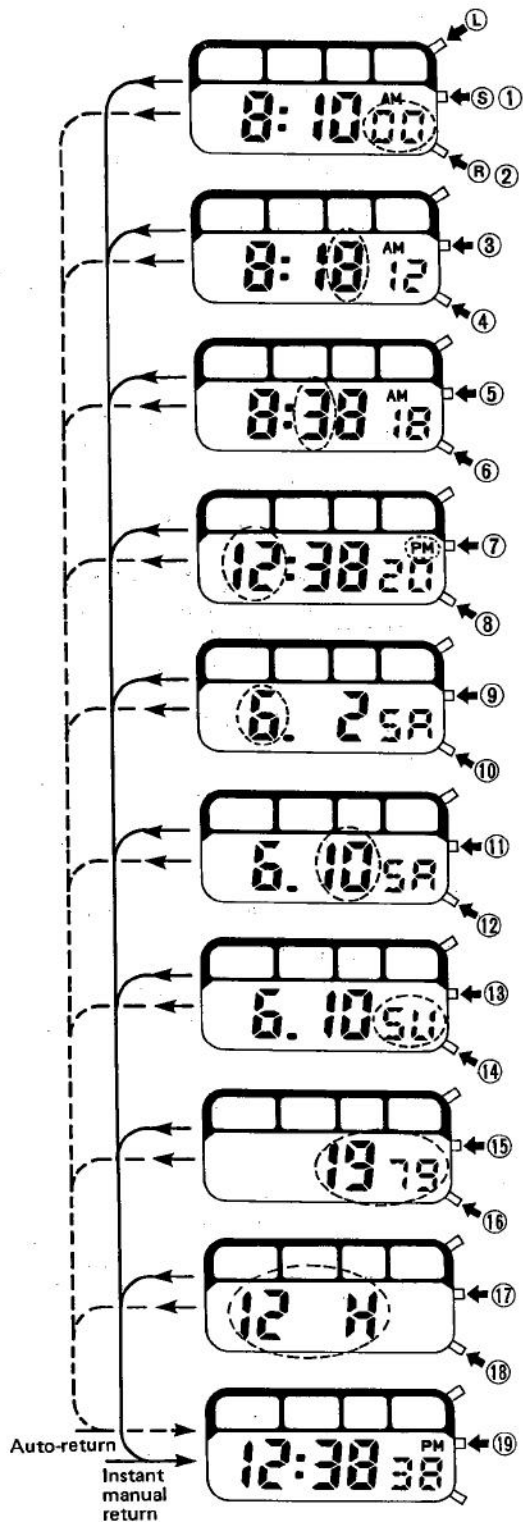
- With every push of (R) button, the time display and the calendar display switch alternately. The calendar display returns to the time display automatically in 1 ~ 2 minutes.
- The display is changed in that order of alarm-I → alarm-II → chime → stopwatch → time display with every push of (M) button. The auto-return mechanism also functions here to return the time display from each mode of the alarm-I, alarm-II and chime.
- Either one of the 12-hour and 24-hour displays is given for the time display which can be selected when the time or calendar is corrected.
- The alarm time can be set in either of the 12-hour and 24-hour displays in linking to the time system of the time display. No display of AM/PM is given in the 24-hour display.

3) Setting of time and calendar

The area to be corrected is called out with push of (S) button, and then the setting is performed with push of (R) button.

The setting must be carried out as indicated by the figures in the illustration below ( ① → ② → ③ ... ⑱ ).

(The correcting area is shown by the ○ mark.)



Setting of second

Setting of 1-minute digit

Setting of 10-minute digit

Setting of hour

Setting of month

\*Setting of date

Setting of day

Setting of year




12-/24-hour switching

Time display

- ① With push of (S) button about 2 seconds under the time display, the "second" flashes.
- ② The time is reset to "0-second" with push of (R) button. (One minute is carried when the "second" reads 30 ~ 59.)
- ③ The "1-minute digit" flashes.
- ④ The time is carried by one minute with every push of (R) button, and thus the "1-minute digit" is set.
- ⑤ The "10-minute digit" flashes.
- ⑥ The "10-minute digit" is set.
- ⑦ The "hour" plus either "AM" or "PM" flash simultaneously.
- ⑧ The "hour" plus "AM" or "PM" are set.
- ⑨ The "month" flashes.
- ⑩ The "month" is set.
- ⑪ The "date" flashes.
- ⑫ The "date" is set.
- ⑬ The "day" flashes.
- ⑭ The "day" is set. (Each day of the week is shown in English with first two letters.)
- ⑮ The "year" flashes.
- ⑯ The "year" is set. (The years can be set in the cycle of 1970 ~ 2009.)
- ⑰ Either "12-hour" or "24-hour" display is given with flashing.
- ⑱ The "12-hour" and "24-hour" displays are given alternately with every push of (R) button, which couples the display time system of the time display.
- ⑲ The time display is reset.

\*For setting of "date" of the leap year (February 29), the "year" must be set first.

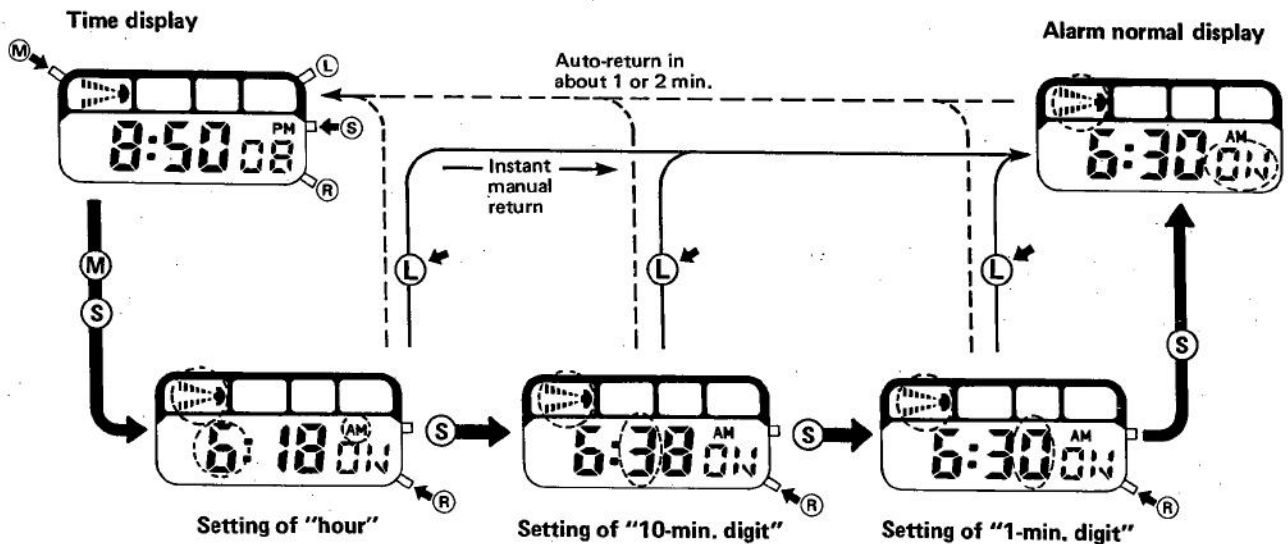
#### 4) Operation of Alarm-I

-  : Alarm-I mode mark (Displayed constantly in the mode of alarm-I with flashing.)
-  : ON-mark (Showing the alarm set state)
-  : OFF-mark (Showing the alarm cancel state)

##### (1) Call-out of alarm-I mode and return to time display




The time display is switched to the alarm-I mode with a push of (M) button, and then the time display is reset with continuous 4-times push of (M) button from the "alarm normal display" after setting of the alarm. Also, the time display is reset automatically in about 1 or 2 minutes from the alarm-I mode.

##### (2) Setting of alarm-I



- Time setting sequence: "Hour" → "10-min. digit" → "1-min. digit"
- The "set" and "cancel" of the alarm are repeated alternately with every push of (R) button with display of "ON" and "OFF" marks respectively. These marks don't flash in the setting state.

#### 5) Operation of Alarm-II

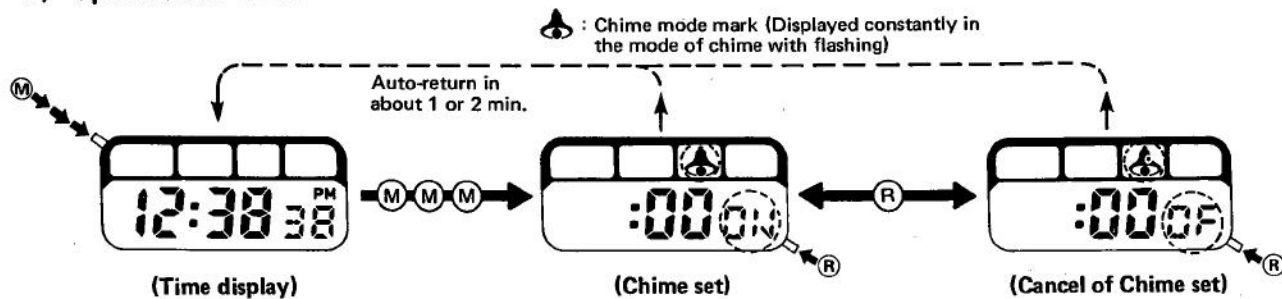
-  : Alarm-II mode mark (Displayed constantly in the mode of alarm-II with flashing)
-  : ON-mark
-  : OFF-mark (Identical with alarm-I)

##### 1) Setting of alarm-II

Exactly identical with alarm-I except for the mode mark.

\*Both alarm-I and alarm-II sound for 30 seconds and are stopped with push of any of the push-buttons.

6) Operation of Chime



(1) Call-out of chime mode and return to time display

The time display is switched to the chime mode with continuous 3-times push of (M) button, and reset from the chime mode with push of (M) button twice. The time display is also reset automatically from the mode in about 1 or 2 minutes.

(2) Set/Cancel of chime

The "set" and "cancel" of the chime are indicated with "ON" and "OF" marks each with flashing.

7) Operation of stopwatch

: Stopwatch mode mark (Displayed constantly in the mode of stopwatch with flashing)

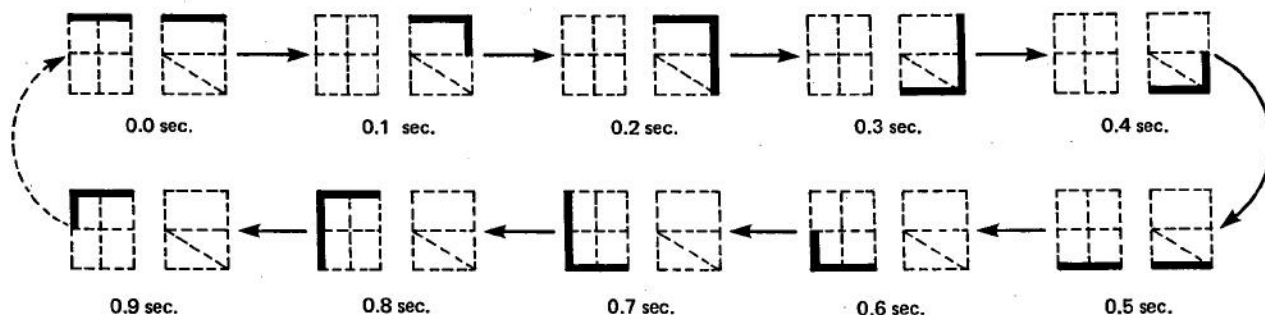
LAP : Lap mark (Displayed at the lower right of the stopwatch mode like with no flashing)

: Minute, Second digit mark (The mark " / " and " \ " show the digits of minute and second each, and flash in the "run" mode (run/lap run).)

(1) Call-out of stopwatch mode and return to time display

The time display is switched to the stopwatch mode with continuous 4-times push of (M) button, and reset from the stopwatch mode with a push of (M) button. The auto-return mechanism is not available from the stopwatch mode to the time display, and thus (M) button is pushed to reset the time display.

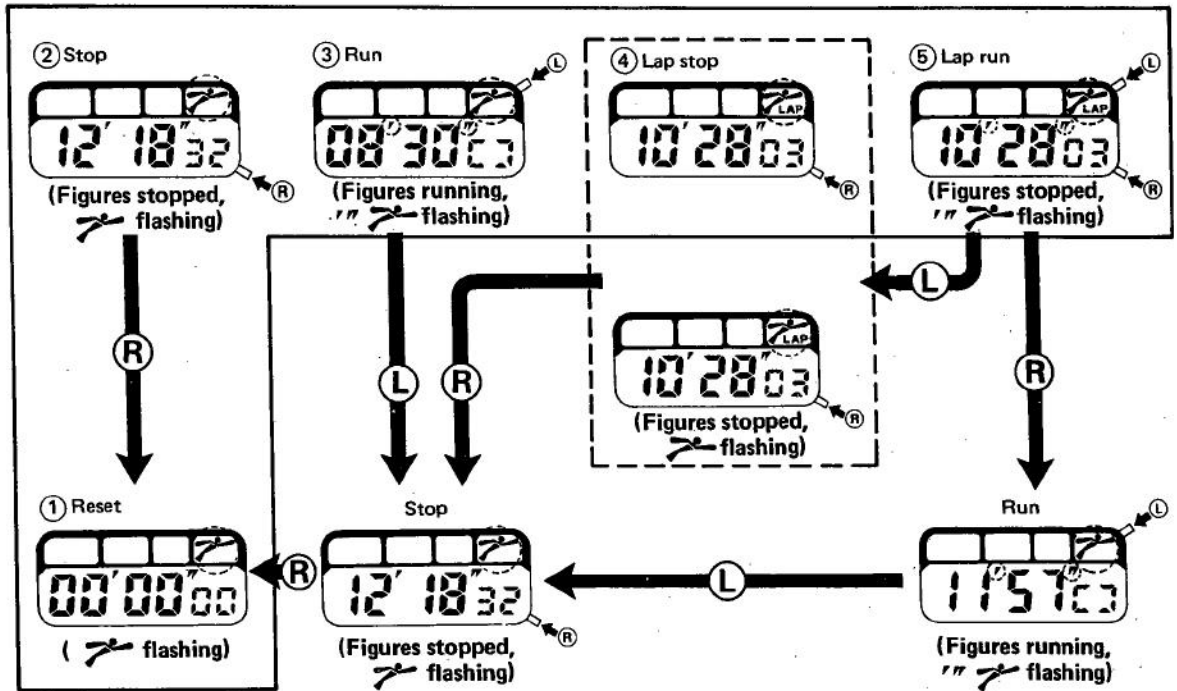
(2) Display method of 1/100 sec. under running of stopwatch



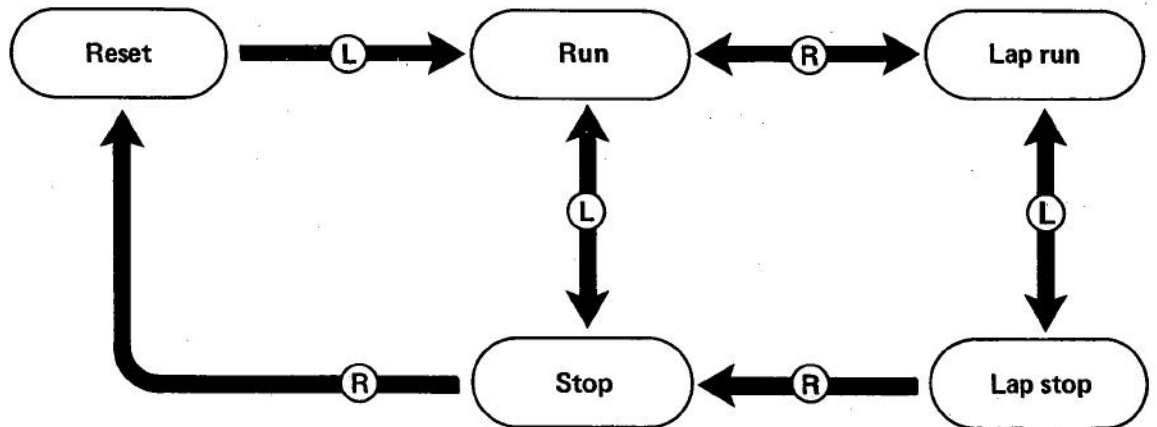
As illustrated above, the display changes every 0.1 sec. Thus, the display varies as if it drawn an oblong in one second. When the display change stops, the time of 1/100 sec. is shown in figures.

(3) Resetting

The display is shown in the following five modes when the time display is switched to the stopwatch display. And each mode is reset with operation of the push-buttons.

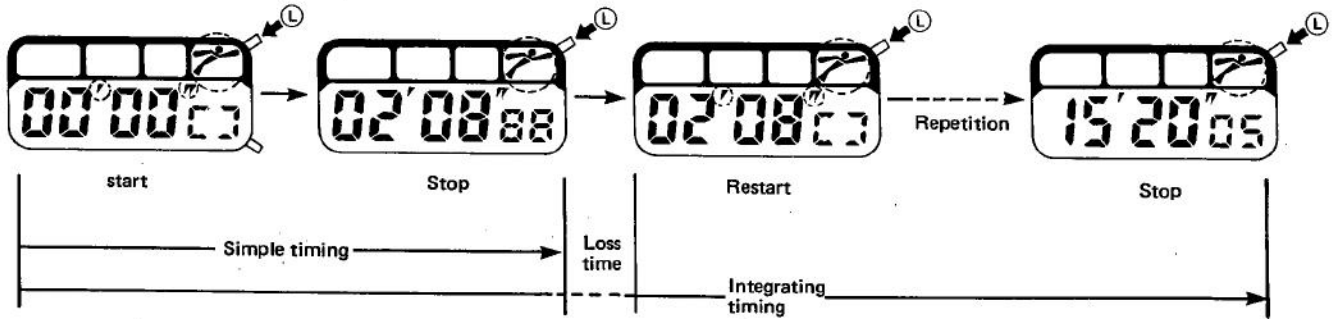


(4) Switching to each mode under stopwatch mode

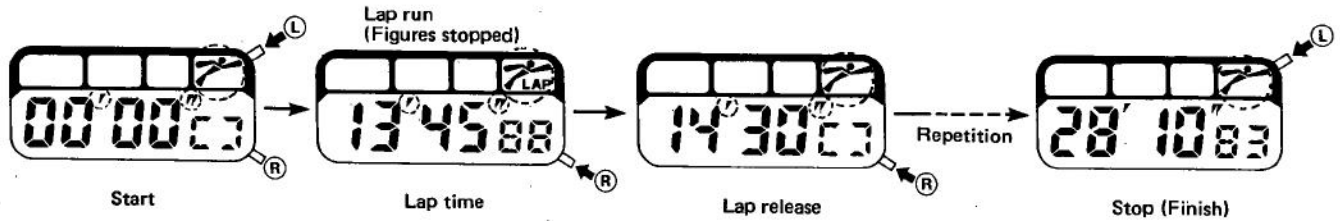


(5) Simple timing and integrating timing

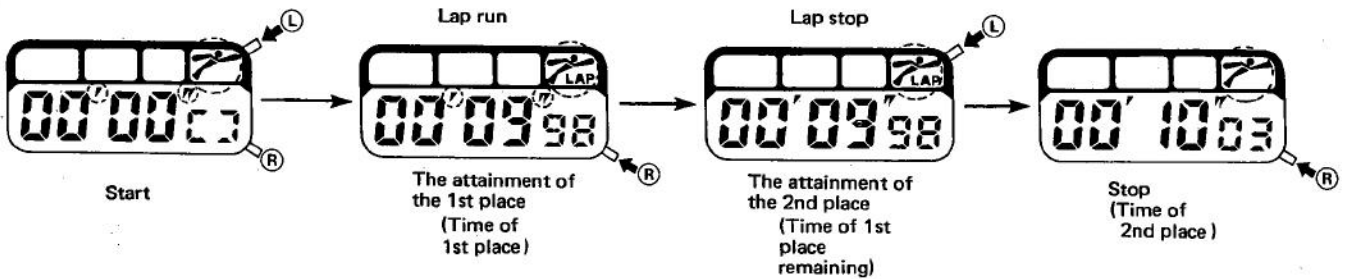
The "start" and "stop" of the timing are repeated alternately with every push of (L) button, and thus an integrating timing is possible for 59' 59" 99 in all. After this, the reset mode is given to Start timing again. Then the timing is carried out repeatedly until it is stopped.




(6) Timing of lap time



(7) Timing of 1st and 2nd places



- A confirmation sound inform for start/stop with every push of (L) button.
- As in the case of the stopwatch mode, the illumination lamp glows with push of (L) button in other modes.
- The timing is continued even though the function is switched to another mode under timing (run and lap run modes). And the stopwatch mode mark (  ) is displayed when the display is switched to the time display.