

***TECHNICAL  
INFORMATION***

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**CITIZEN QUARTZ**

**Cal. No. 961✕**

 **CITIZEN**

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## ■1. OUTLINE



This is an LCD analog/digital display watch provided with a segmented luminous indicator through the light sensor technique.

It is our leading product heightening the image of Citizen-digital as a genuine multi-functional digital watch with which one can enjoy sound plays by controlling input light of the watch.

## ■2. FEATURES

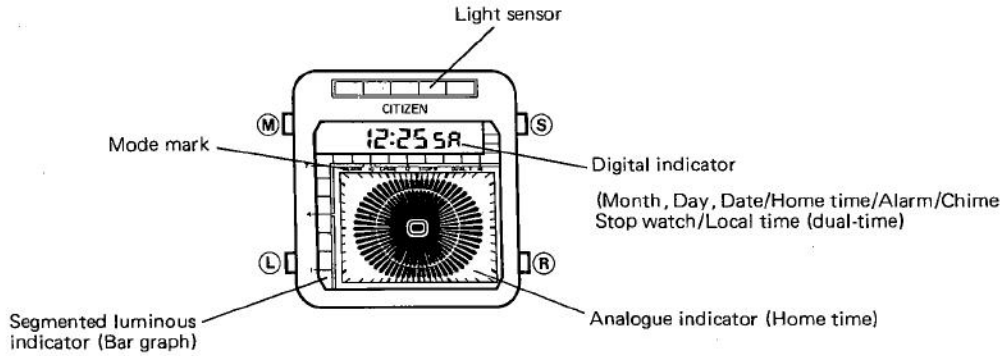
- 1) The segmented luminous indicator is colorfully designed in such way that the illumination is indicated by a bar-graph divided a range of 0 to 100,000 Lx (lux) into 20 steps and the luminous condition is displayed by three colors of green, red and blue.
- 2) The musical scale (do, re, mi, fa . . . ) can be enjoyed by controlling the input light onto the light sensor.
- 3) Power cell lifetime is about four years in spite of multi-functional digital watch with light sensor, alarm, light and so forth.

■3. SPECIFICATIONS

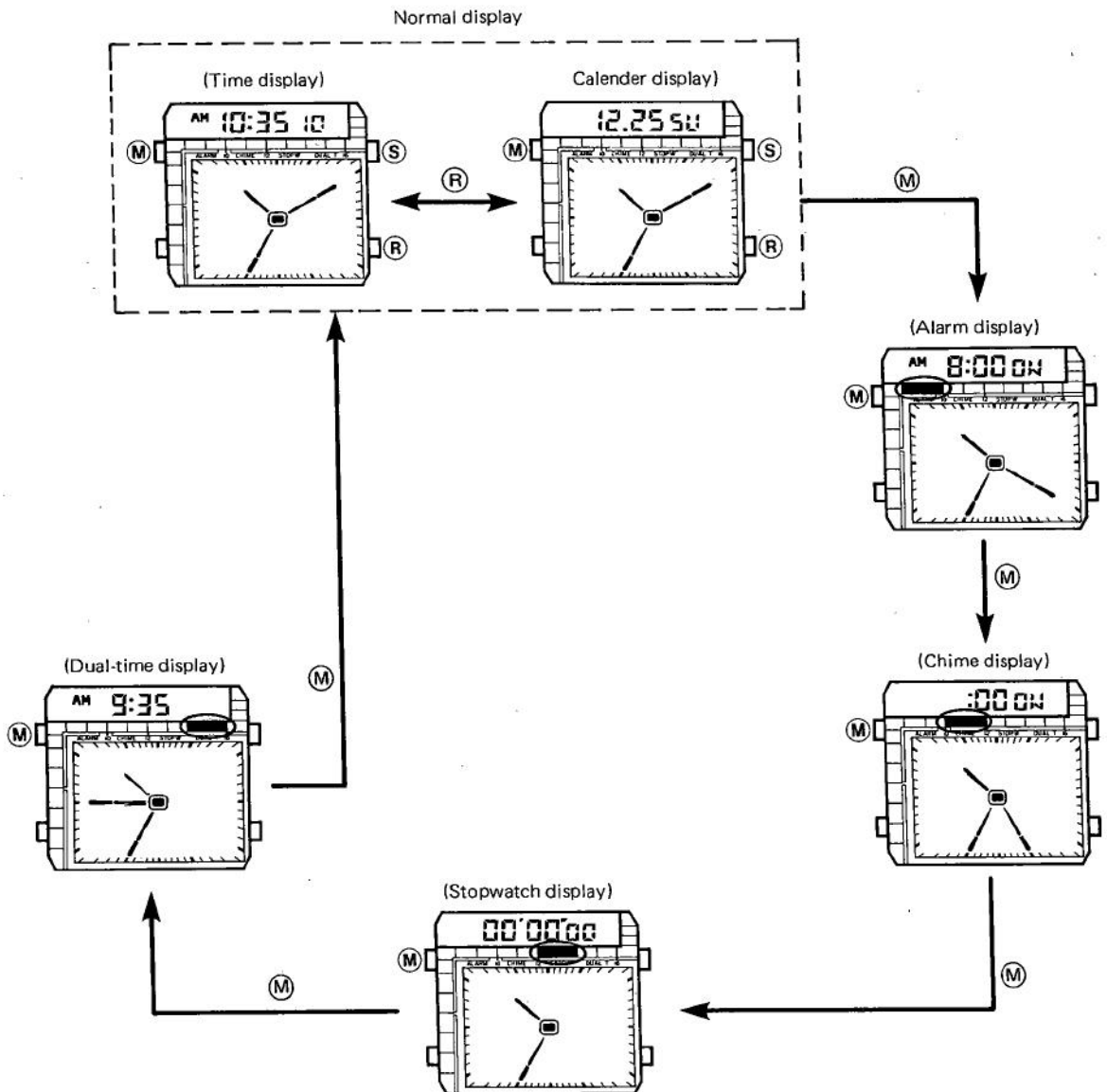
Caliber number		9610
Type		Digital type quartz crystal watch
Module size		Size : 27.0mm (12H-6H) x 25.0mm (9H-3H) Thickness : 4.41mm
Accuracy		±15 sec/month at normal temperatures
Oscillation		32,768 Hz
Display method		FE type nematic LC (liquid crystal) multiplex driving Analogue part : Three hands type, 60 x 2 = 120 segments 5-split Digital part : Six digits + mark, 3-split driving Bar graph part : Three color indication, 20 segments, 3-split driving
Integrated circuit		C/MOS-LSI 1 unit (for watch) and C/MOS-MSI 1 unit (for segmented luminous indicator)
Effective temperature range		0°C ~ +55°C (32°F ~ 131°F)
Adjustment of time rate		By trimmer condenser
Display functions	Normal display	Digital part : "Month, Day, Date" . . . Calender "A/P. Hour, Min., Sec." . . . Home time Analogue part : "Hour, Min., Sec." . . . Home time Bar graph part : "Data indication"
	Alarm	Digital part : "A/P. Hour, Min., Sec., ON/OFF" Analogue part : "Hour, Min., Sec." . . . Home time Bar graph part : On and Off.
	Chime	Digital part : "00, ON/OFF" Analogue part : Condition of "ON" . . . all light Condition of "OFF" . . . all light out
	Stopwatch	Digital part : "Min., Sec., 1/100 sec." (60-minute count) Analogue part : "Hour, Min., Sec." . . . Home time Bar graph part : Flickering
	Dual-time	Digital part : "Hour, Min." . . . Dual-time Analogue part : "Hour, Min., Sec." . . . Home time Bar graph part : Flickering
Addition functions		Sound play : 12H/24H system change, light (Alarm monitor) Instant manual return Fully automatic calendar (A.D. 1980 to 2019) Segmented luminous indicator
Power cell (Lithium cell)		Parts No. : 280-202 (1 unit) Cell code : BR2016 (Li/(CF)n) Size : 20.0mmφ x 1.6mm Nominal voltage : 3.0V Capacity : 65mAH Lifetime : About four years (20 sec. sound play, 20 sec. alarm ring, 3 sec. lamp lighting & 24 hourly chimes per day)

■4. HANDLING INSTRUCTIONS (Marks "○" show flashing.)

1) Nomenclature and functions

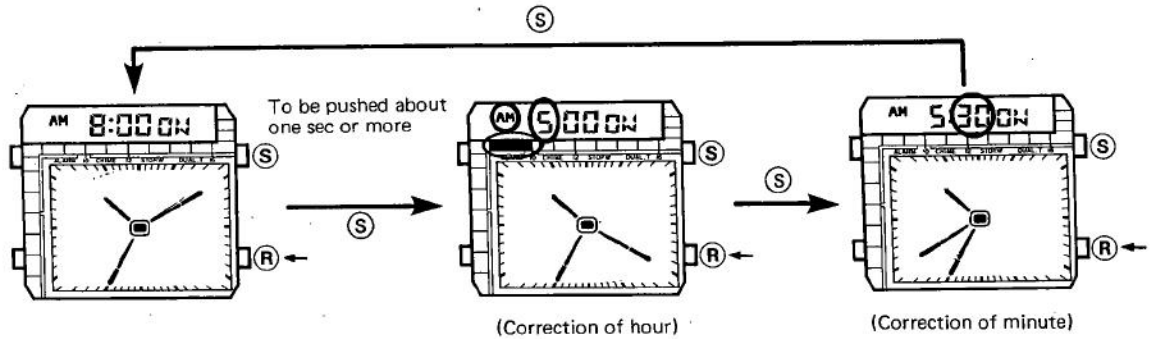


2) Switching of display



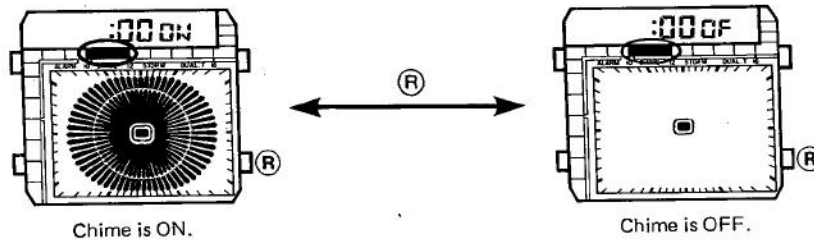


4) Operation of alarm

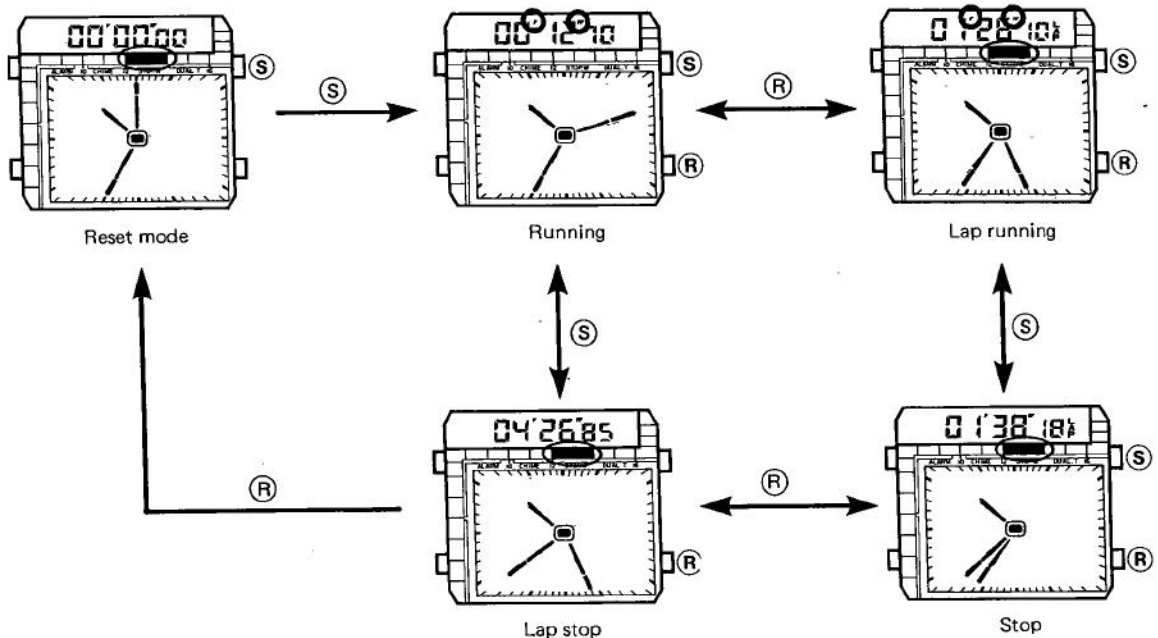


- \*1 Switching of ON and OFF of the alarm can be done by the button (R).
- \*2 AM/PM of the alarm time is linked with 12H/24H of the normal time display.
- \*3 Keep pressing the button (S) till the time adjustment condition is reached, only in the case of changeover to the time adjusted indication. (Pressing period is about 1 to 2 seconds.)

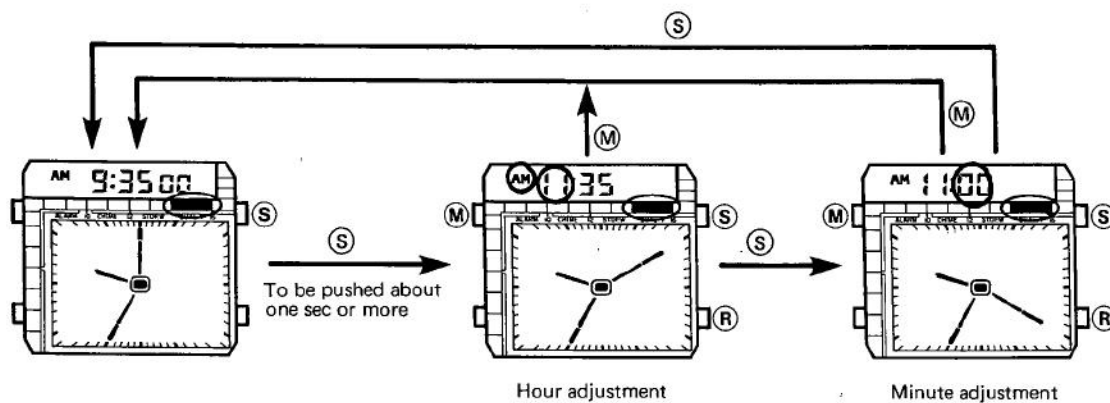
5) Operation of chime



6) Operation of stopwatch



## 7) Dual time



## 8) Sound play (Sound monitor)

The sound play (sound monitor) can be achieved with simultaneous push of both (R) and (S) buttons in the normal display mode (time indication or calendar indication).

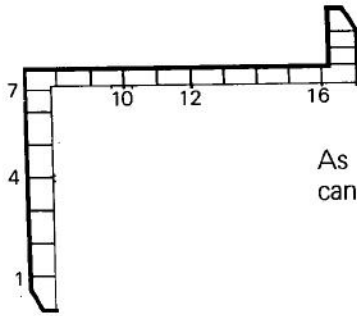
In this mode, one can enjoy sound of a musical scale corresponding to the ambient brightness for 15 to 20 seconds.

In this mode, the normal time displaying mode is kept.

9) Note on segmented luminous indicator

For the segmented luminous indicator used in this watch, some error may sometimes be produced on the bar graph display part due to the variance of the light source, the temperature, the luminous sensor itself, etc.

In this connection, this indicator should be used just for a standard of brightness.



As illustrated, the bar graph display is scored by some figures, which can be used as a guide of illuminance as shown below.

<Reference>

NO	Color	Illuminance range		
		Locations	Works	Sports
16	Blue			
12				
10				
7	Red	<ul style="list-style-type: none"> <li>● Office</li> <li>● Drafting room</li> </ul>	<ul style="list-style-type: none"> <li>● Office</li> <li>● Typewriting</li> <li>● Drafting</li> <li>● Calculation</li> </ul>	General match <ul style="list-style-type: none"> <li>● Tennis</li> <li>● Ping-pong</li> </ul>
4		<ul style="list-style-type: none"> <li>● Office</li> <li>● Meeting room</li> <li>● School room</li> <li>● Dining room</li> </ul>		
1	Green			Recreation <ul style="list-style-type: none"> <li>● Tennis</li> <li>● Ping-pong</li> </ul> General match <ul style="list-style-type: none"> <li>● Soccer</li> </ul>