

# PARTS CATALOGUE / TECHNICAL GUIDE

## Cal. W810A

### [SPECIFICATIONS]

Item		Cal. No.	W810A
Module			 <p>(x 1.0)</p>
Module size	Outside diameter		31.7mm between 6 o'clock and 12 o'clock sides 31.6mm between 3 o'clock and 9 o'clock sides
	Casing diameter		—
	Height		6.9 mm
Display medium			Nematic Liquid Crystal, FEM (Field Effect Mode)
Liquid crystal driving system			Multiplex driving system
Display system			<ul style="list-style-type: none"> <li>• Time/calendar display                             <ul style="list-style-type: none"> <li>• Automatic calendar (from 1993 to 2042)</li> </ul> </li> <li>• Timer display (10-channel countdown timer)                             <ul style="list-style-type: none"> <li>• Adjustable timer (Up to 10 hours in 10 seconds)</li> <li>• Preset timer (Selection of the preset timer mode from 3-, 5-, 10-, 15-, 20-, 30-, 35-, 40- and 45-minute timer modes)</li> </ul> </li> <li>• Stopwatch display (Up to 10 hours in 1/100 second increments)</li> <li>• Memory recall display                             <ul style="list-style-type: none"> <li>• Lap time memory (Up to 8 lap times)</li> </ul> </li> <li>• Alarm display                             <ul style="list-style-type: none"> <li>• Daily alarm</li> </ul> </li> </ul>
Additional mechanism			<ul style="list-style-type: none"> <li>• Confirmation sound for watch operation</li> <li>• Battery life indicator</li> <li>• Alarm test system</li> </ul>
Loss/gain			Monthly rate at normal temperature range: less than 20 seconds
Regulation system			Nil
Measuring gate by quartz tester			Any gate can be used.
Battery			SEIKO CR2025, SONY CR2025, Matsushita CR2025 Battery life is approximately 2 years. Voltage: 3.0V

# PARTS CATALOGUE

Cal. W810A

Disassembling procedures Figs. : (1) → (14)

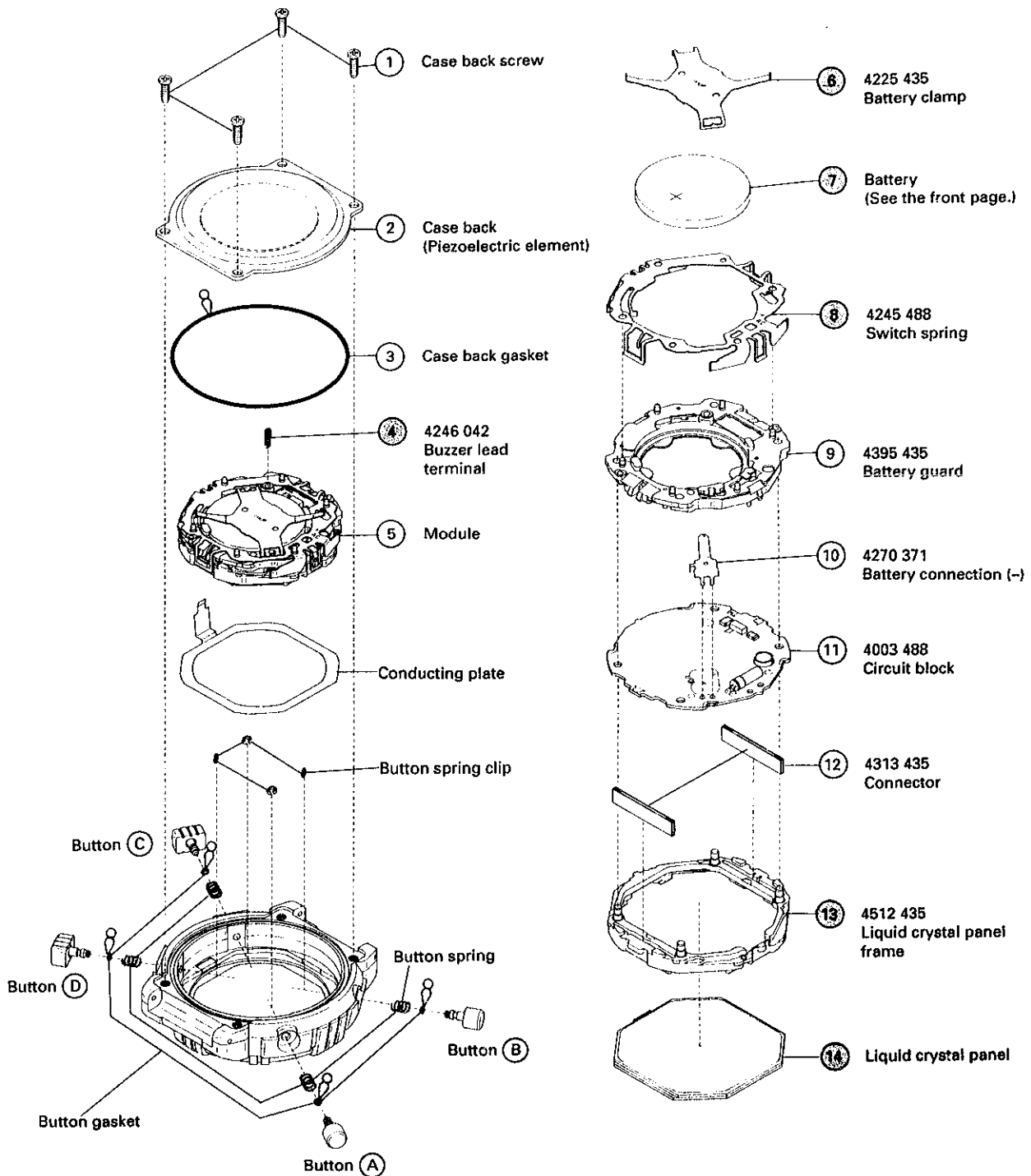
Reassembling procedures Figs. : (14) → (1)

Lubricating: Types of oil

Oil quantity

∞ Silicone Oil 500,000 c.s.

∞ Normal quantity



**\*Note:** Do not disassemble the buttons except when they need to be replaced.

☉ → Please see the remarks on the following pages.

**Remarks:**

- ⑭ Liquid crystal panel

The type of liquid crystal panel is determined based on the design of cases. Check the case number and refer to "Casing Parts Catalogue" to choose a corresponding liquid crystal panel.

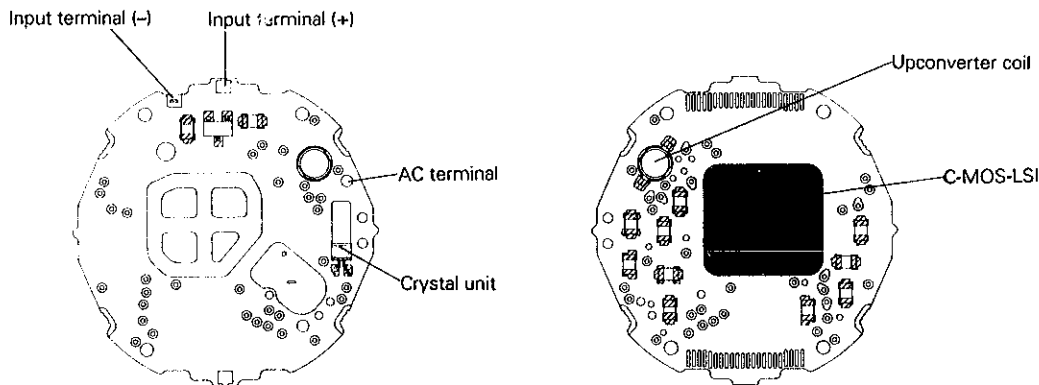
Piezoelectric element 4589 003

The piezoelectric element, which is adhered to the case back, is available for supply separately from the case back.

## TECHNICAL GUIDE

- The explanation here is only for the particular points of Cal. W810A.
- For the repairing, checking and measuring procedures, refer to the "TECHNICAL GUIDE, GENERAL INSTRUCTIONS".

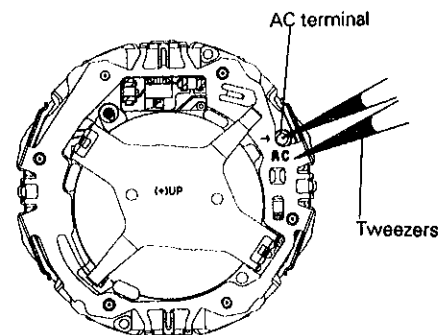
### I. STRUCTURE OF THE CIRCUIT BLOCK



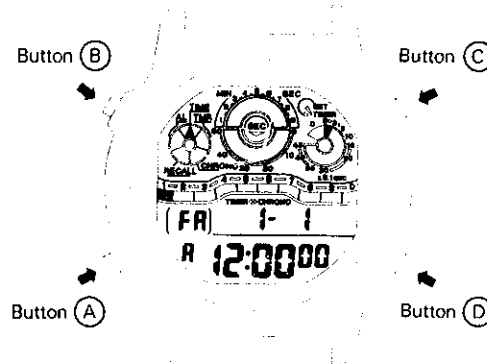
### II. REMARKS ON INSTALLING THE BATTERY

- After the battery is replaced with a new one, or after the battery is re-installed following the repairing procedures, be sure to short-circuit the AC terminal of the circuit block and the switch spring with conductive tweezers as illustrated at right to reset the circuit.

**Note:** When measuring the current consumption, make sure that the power is supplied externally before resetting the circuit.



- To reset the circuit with the case back installed, keep buttons "A", "B", "C" and "D" pressed at the same time for 2 to 3 seconds. "A 12:00'00" FR 1-1" will be shown on the display.



### III. REMARKS ON DISASSEMBLING AND REASSEMBLING

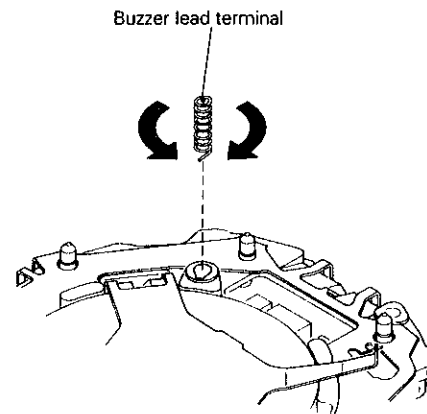
#### ④ Buzzer lead terminal

##### • How to remove

Turn the buzzer lead terminal to release its end portion from the groove of the battery guard, then remove it.

##### • How to install

Set the end portion of the buzzer lead terminal into the groove of the battery guard, then turn it to fix it.



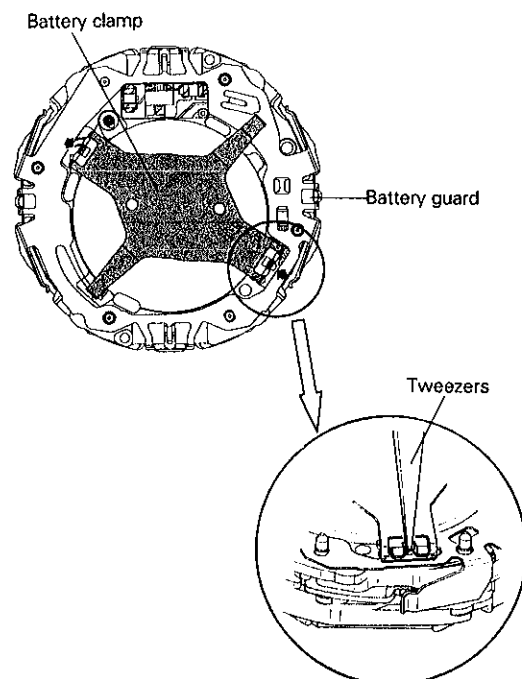
#### ⑥ Battery clamp

##### • How to remove

Pry up with the tip of the tweezers the two protrusions of the battery clamp hooked to the notches of the battery guard.

##### • Checking after installation

After installing the battery clamp, check that the battery guard is securely held by the two protrusions of the battery clamp.



# TECHNICAL GUIDE

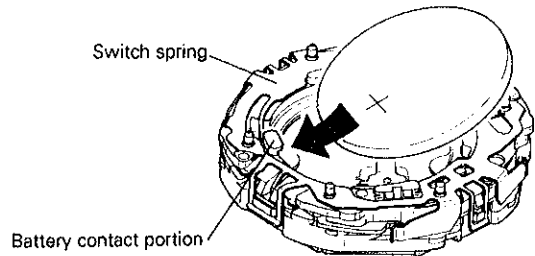
Cal. W810A

## 7 Battery

### • How to install

Install the battery sideways as shown in the illustration lest it should press down the battery contact portion of the battery guard.

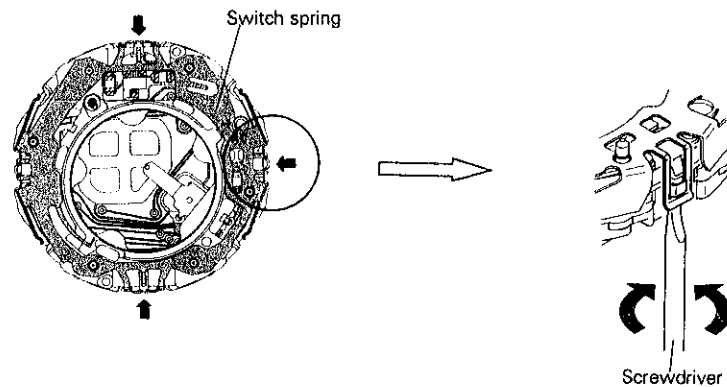
Set the battery sideways.



## 8 Switch spring

### • How to remove

Pry up the four hooking portions of the switch spring with the tip of the screwdriver to remove it.

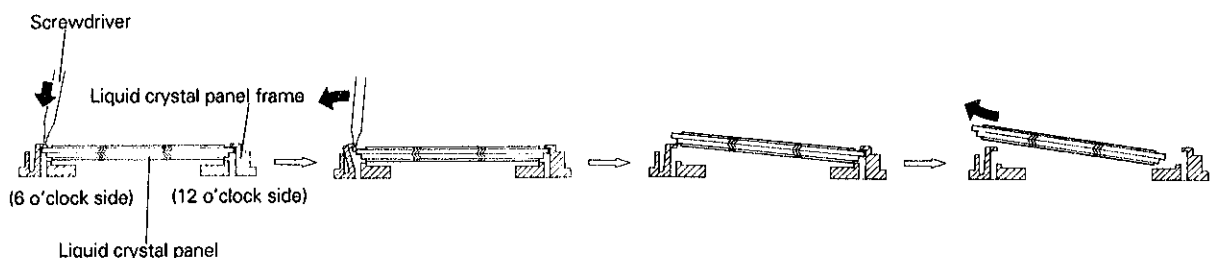


## 13 Liquid crystal panel frame

## 14 Liquid crystal panel

### • How to remove

Insert the tip of the screwdriver into the hooking portion of the liquid crystal panel frame at the 6 o'clock position, and pry it up in the direction of the arrow as shown in the illustration to remove the liquid crystal panel.

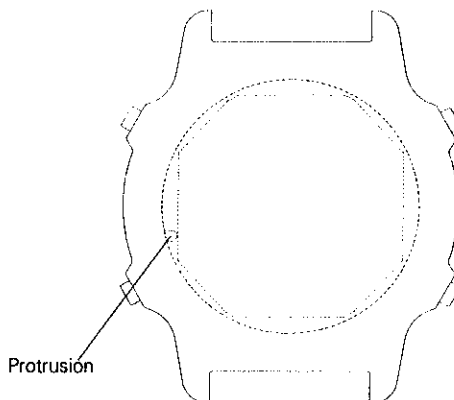
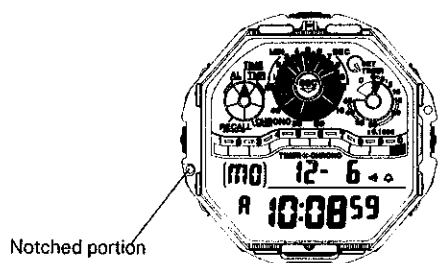


## 14 Liquid crystal panel

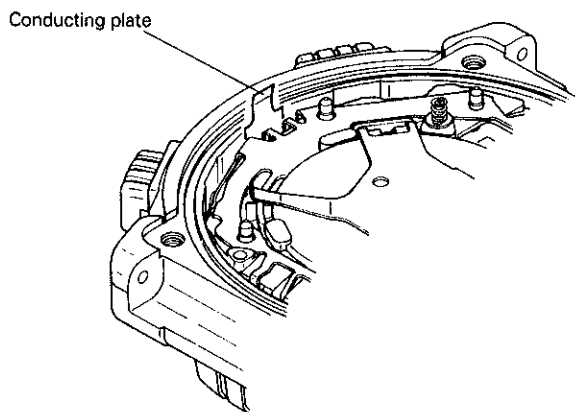
Do not wipe the liquid crystal panel with alcohol, gasoline or other chemicals as the paint on its surface will come off.

- **Remarks on installing the module in the case**

- To install the module in the case, first align the protrusion inside the case with the notched portion of the module, to prevent the module from moving inside the case, and then, press down on the module.

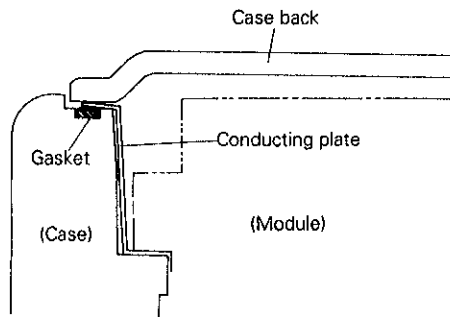


- When closing the case back, check that the protruding portion of the conducting plate is placed in position within the case, making contact with the case back.



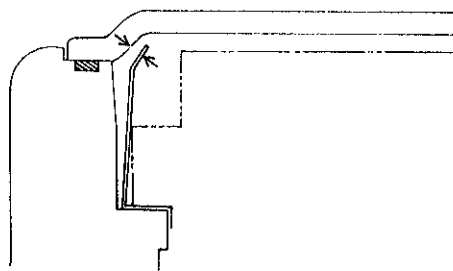
**[Incorrect: 1]**

The protruding portion of the conducting plate is caught between the case and case back, deteriorating the water resistant quality.



**[Incorrect: 2]**

The protruding portion of the conducting plate is out of contact with the case back.



## IV. VALUE CHECKING

- **Time accuracy**

To measure accuracy, light up all the segments of the display. To do so, press buttons "C" and "D" at the same time in the TIME/CALENDAR SETTING display.

After the measurement, press button "A", "B", "C" or "D" to return to the TIME/CALENDAR display.

- **Upconverter coil resistance**

125Ω ~ 175Ω

- **Current consumption for the whole module**

- With the circuit reset : less than 4.5μA
- With all the segments lit up : less than 10.0μA

**Notes:**

- Before measuring the current consumption, be sure to reset the circuit or light up all the segments of the display, as the value of the current consumption increases in some modes and no stable measurement can be obtained. In either case, read the minimum value.

- When measuring the current consumption, take care not to expose the module to the light. Light will increase the current consumption, and as a result, correct measurement cannot be obtained.