SERVICE MANUAL
& PARTS LIST

REF. NO. S/M-1228
OCT. 2013

MODULE NO.

QW-3410

GW-9400-1

Ver.1 : Feb. 2016

CASIO®

(WITHOUT PRICE)

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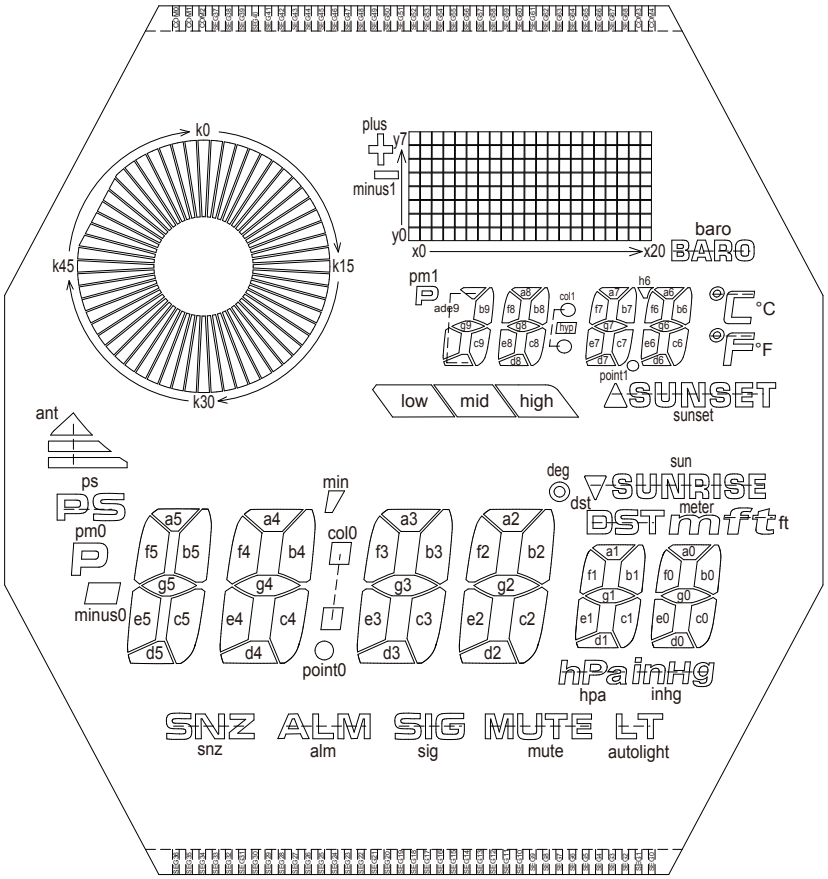
   - 7-7. TIME CALIBRATION SIGNAL TEST 20

1. SPECIFICATIONS: MODULE QW-3410

<table>
<tr><th>Item</th><th>Detail</th></tr>
<tr><td>Battery</td><td>CTL1616 (Storage battery)
Note: Use CTL1616 only. Other storage battery or CR1616 can cause damage to the watch.</td></tr>
<tr><td>Battery life</td><td>Approx. 8 months</td></tr>
<tr><td>Current consumption</td><td>1.32 µA maximum
See page 16</td></tr>
<tr><td>Alarm system</td><td>Piezo plate on Cover/Back</td></tr>
<tr><td>Accuracy</td><td>± 15 sec./month</td></tr>
<tr><td>Accuracy setting system</td><td>Theoretical regulation</td></tr>
<tr><td>Accuracy checking</td><td>See page 17</td></tr>
<tr><td>Functions</td><td>
• Timekeeping: Hour, minutes, seconds, p.m. (P), year, month, day, day of the week,
Time format: 12-hour and 24-hour
Calendar system: Full Auto-calendar pre-programmed from the year 2000 to 2099
• Time Calibration Signal Reception:
Auto receive 6 times a day (5 times a day for the Chinese calibration signal) ; Remaining auto receives cancelled as soon as one is successful; Manual receive; Receive Mode
Receivable Time Calibration Signals:
Mainflingen, Germany (Call Sign: DCF77, Frequency: 77.5 kHz); Anthorn, England (Call Sign: MSF, Frequency: 60.0 kHz); Fort Collins, Colorado, the United States (Call Sign: WWVB, Frequency: 60.0 kHz); Fukushima, Japan (Call Sign: JJY, Frequency: 40.0 kHz); Fukuoka/Saga, Japan (Call Sign: JJY, Frequency: 60.0 kHz); Shangqiu City, Henan Province, China (Call Sign: BPC, Frequency: 68.5 kHz)
• Altimeter:
Measurement range: –700 to 10,000 m (–2,300 to 32,800 ft.) without reference altitude
Display range: –10,000 to 10,000 m (–32,800 to 32,800 ft.)
Negative values can be caused by readings produced based on a reference altitude or due to atmospheric conditions.
Display unit: 1 m (5 ft.)
Altitude Memory Data:
Manual save records: 40 (altitude, date, time)
Auto save values: High altitude (with month, day, time of reading), low altitude (with month, day, time of reading), cumulative ascent (with month, day, time of first reading), cumulative descent (with month, day, time of first reading)
Other: Reference altitude setting; Altitude graph; Altitude differential; Altitude auto measurement method (0'05 or 2'00)
• Digital Compass: 60 seconds continuous measurement; Angle value 0° to 359°; Four direction pointers; Calibration (bidirectional, northerly); Magnetic declination correction; Bearing Memory
• Barometer:
Measurement and display range: 260 to 1,100 hPa (7.65 to 32.45 inHg)
Display unit: 1 hPa (0.05 inHg)
Measurement timing: Periodic atmospheric pressure measurement (at two hour intervals); Real time measurement, Barometric pressure sensor calibration, Barometric pressure graph, Atmospheric pressure differential graphic, Atmospheric pressure tendency information
• Thermometer:
Measurement and display range: –10.0 to 60.0°C (14.0 to 140.0°F)
Display unit: 0.1°C (0.2°F)
Real time measurement, Temperature sensor calibration
• Bearing Sensor Precision: Direction: Within ±10°
Values are guaranteed for a temperature range of –10°C to 60°C (14.0 to 140.0°F)
North pointer: Within ±2 digital segments
• Temperature Sensor Precision:
±2°C (±3.6°F) in range of –10°C to 60°C (14.0 to 140.0°F)
• Pressure Sensor Precision:
<table>
<tr><th></th><th>Conditions (Altitude)</th><th>Altimeter</th><th>Barometer</th></tr>
<tr><td rowspan="2">Fixed temperature</td><td>0 to 6000 m
0 to 19680 ft.</td><td>± (altitude differential × 2% + 15 m) m
± (altitude differential × 2% + 50 ft.) ft.</td><td rowspan="2">± (pressure differential × 2% + 2 hPa) hPa
± (pressure differential × 2% + 0.059 inHg) inHg</td></tr>
<tr><td>6000 to 10000 m
19680 to 32800 ft.</td><td>± (altitude differential × 2% + 25 m) m
± (altitude differential × 2% + 90 ft.) ft.</td></tr>
<tr><td rowspan="2">Effect of variable temperature</td><td>0 to 6000 m
0 to 19680 ft.</td><td>± 50 m every 10°C
± 170 ft. every 50°F</td><td rowspan="2">± 5 hPa every 10°C
± 0.148 inHg every 50°F</td></tr>
<tr><td>6000 to 10000 m
19680 to 32800 ft.</td><td>± 70 m every 10°C
± 230 ft. every 50°F</td></tr>
</table>
• Values are guaranteed for a temperature range of –10°C to 40°C. (14°F to 104°F)
• Precision is lessened by strong impact to either the watch or the sensor, and by temperature extremes.
• World Time: 48 cities (31 time zones)
Other: Daylight Saving Time/Standard Time
• Stopwatch:
Measuring unit: 1/100 second
Measuring capacity: 999:59' 59.9"
Measuring modes: Elapsed time, split time, two finishes
• Countdown Timer:
Measuring unit: 1 second
Countdown start time setting range: 24-hour (1-minute unit)
• Alarms: 4 Daily alarms; Hourly time signal
• Sunrise time and Sunset time
from 2000/1/1 to 2099/12/31
• Illumination: LED ; Selectable illumination duration (approximately 1 second or 3 seconds); Auto Light Switch (Full Auto EL Light operates only in the dark)
• Other: Battery power indicator; Power Saving; Low-temperature resistance (–10°C/14°F);
Button operation tone on/off
</td></tr>
</table>

2. DRAWINGS: MODULE QW-3410

2-1. LCD DIAGRAM



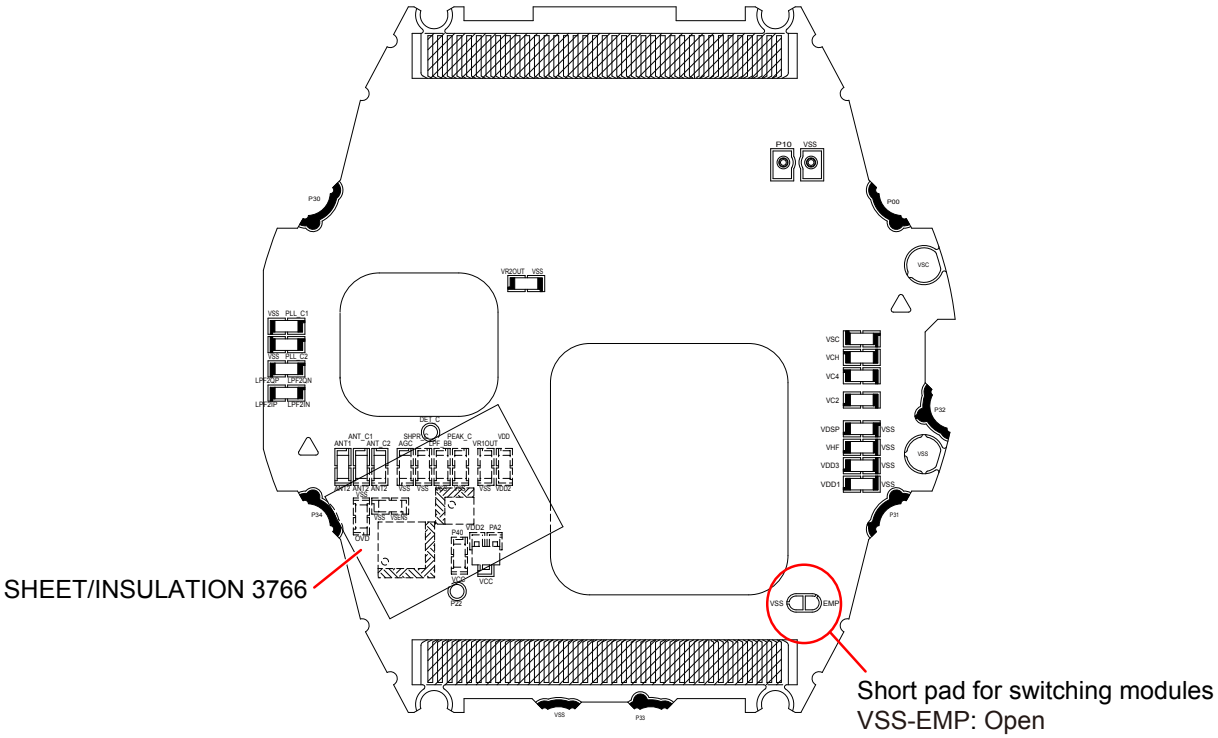
SEG \ COM	COM0	COM1	COM2	COM3	COM4
SEG0	x20y5	x20y6	x20y7	x20y3	x20y4
SEG1		°C	°F	baro	
SEG2		c6	sunset	b6	a6
SEG3	h6	e6	d6	g6	f6
SEG4		c7	point1	g7	b7
SEG5	hyp	e7	d7	f7	a7
SEG6	col1	c8	d8	b8	a8
SEG7	pm1	e8	high	g8	f8
SEG8		c9	mid	b9	
SEG9		ade9	low	g9	
SEG10	ft	d0	autolight	c0	b0
SEG11	a0	e0	inhg	g0	f0
SEG12	meter	c1	hpa	b1	a1
SEG13	dst	e1	d1	g1	f1
SEG14	x20y0	sun	deg	x20y2	x20y1
SEG15	x19y0	a2	mute	x19y2	x19y1
SEG16	x18y0	f2	b2	x18y2	x18y1
SEG17	x17y0	g2	c2	x17y2	x17y1
SEG18	x16y0	e2	d2	x16y2	x16y1
SEG19	x15y0	a3	sig	x15y2	x15y1
SEG20	x14y0	f3	b3	x14y2	x14y1
SEG21	x13y0	g3	c3	x13y2	x13y1
SEG22	x12y0	e3	d3	x12y2	x12y1
SEG23	x11y0	min	point0	x11y2	x11y1
SEG24	x10y0	col0	alm	x10y2	x10y1
SEG25	x9y0	a4	b4	x9y2	x9y1
SEG26	x8y0	f4	g4	x8y2	x8y1
SEG27	x7y0	e4	c4	x7y2	x7y1
SEG28	x6y0	d4	snz	x6y2	x6y1
SEG29	x5y0	a5	b5	x5y2	x5y1
SEG30	x4y0	f5	g5	x4y2	x4y1
SEG31	x3y0	e5	c5	x3y2	x3y1
SEG32	x2y0	minus0	d5	x2y2	x2y1
SEG33	x1y0	ant	pm0	x1y2	x1y1

SEG \ COM	COM0	COM1	COM2	COM3	COM4
SEG34	x0y0	minus1	plus	x0y2	x0y1
SEG37	k22	k21	k20	k24	k23
SEG38	k27	k28	k29	k25	k26
SEG39	k32	k31	k30	k34	k33
SEG40	k37	k38	k39	k35	k36
SEG41	k42	k41	k40	k44	k43
SEG42	k47	k48	k49	k45	k46
SEG43	k52	k51	k50	k54	k53
SEG44	k57	k58	k59	k55	k56
SEG45	k2	k1	k0	k4	k3
SEG46	k7	k8	k9	k5	k6
SEG47	k12	k11	k10	k14	k13
SEG48	k17	k18	k19	k15	k16
SEG49	x0y5	x0y6	x0y7	x0y3	x0y4
SEG50	x1y5	x1y6	x1y7	x1y3	x1y4
SEG51	x2y5	x2y6	x2y7	x2y3	x2y4
SEG52	x3y5	x3y6	x3y7	x3y3	x3y4
SEG53	x4y5	x4y6	x4y7	x4y3	x4y4
SEG54	x5y5	x5y6	x5y7	x5y3	x5y4
SEG55	x6y5	x6y6	x6y7	x6y3	x6y4
SEG56	x7y5	x7y6	x7y7	x7y3	x7y4
SEG57	x8y5	x8y6	x8y7	x8y3	x8y4
SEG58	x9y5	x9y6	x9y7	x9y3	x9y4
SEG59	x10y5	x10y6	x10y7	x10y3	x10y4
SEG60	x11y5	x11y6	x11y7	x11y3	x11y4
SEG61	x12y5	x12y6	x12y7	x12y3	x12y4
SEG62	x13y5	x13y6	x13y7	x13y3	x13y4
SEG63	x14y5	x14y6	x14y7	x14y3	x14y4
SEG64	x15y5	x15y6	x15y7	x15y3	x15y4
SEG65	x16y5	x16y6	x16y7	x16y3	x16y4
SEG66	x17y5	x17y6	x17y7	x17y3	x17y4
SEG67	x18y5	x18y6	x18y7	x18y3	x18y4
SEG68	x19y5	x19y6	x19y7	x19y3	x19y4

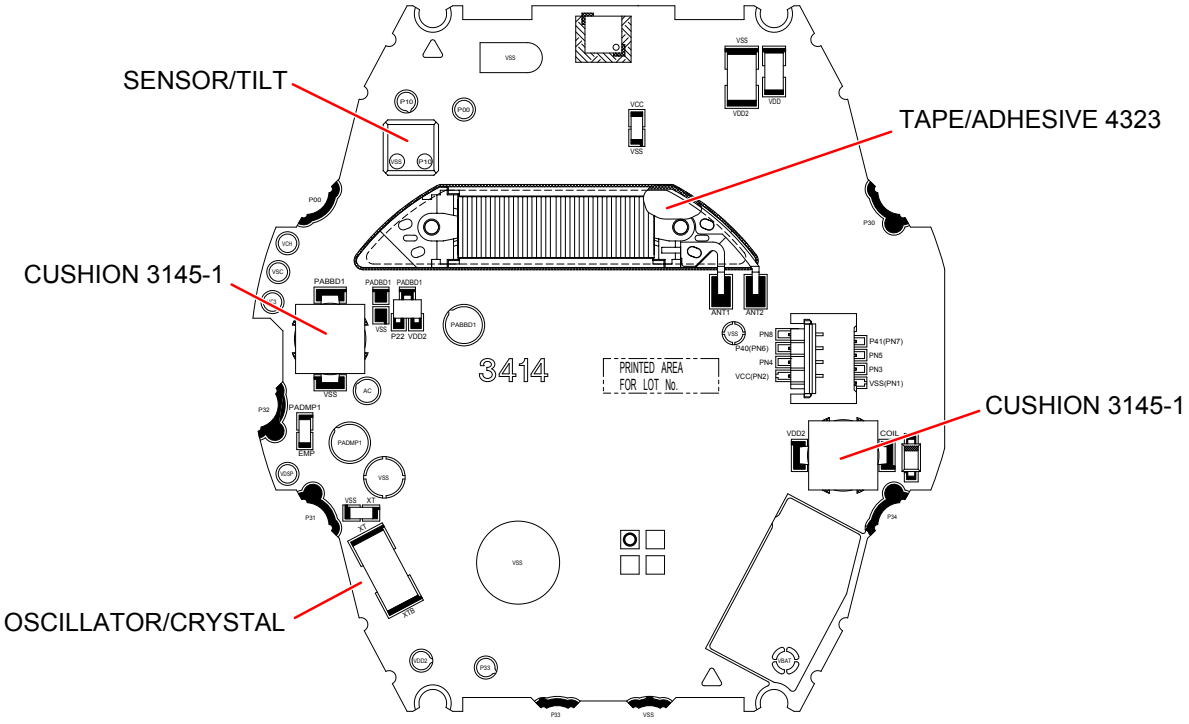
SEG \ COM	SEG36
SEG35	ps

2-2. CHECKING TERMINALS AND COMPONENTS

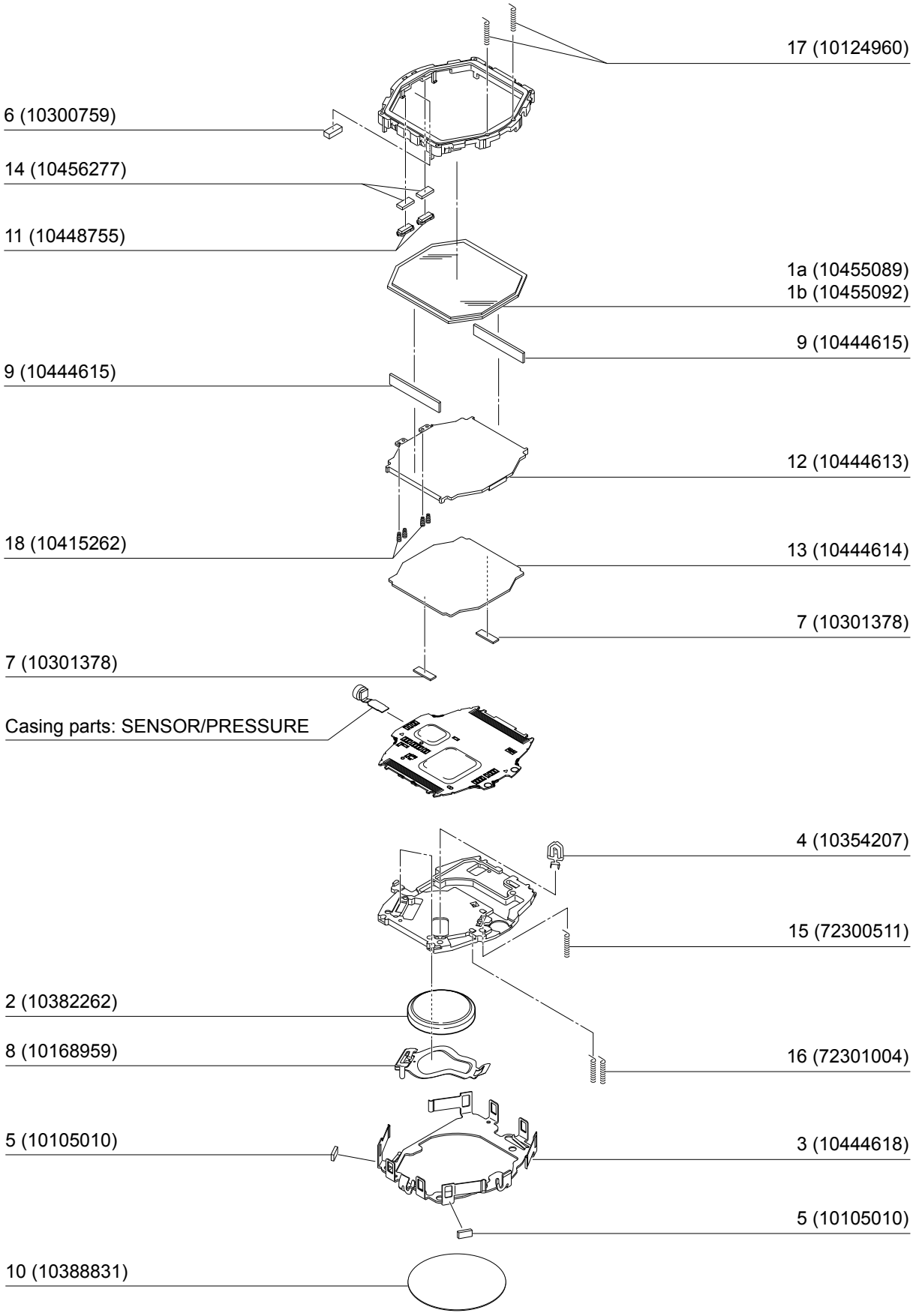
< front side >



< back side >



3. EXPLODED VIEW: MODULE QW-3410



4. PARTS LIST: MODULE QW-3410

QW-3410AT
1 QW-3410AT-01TK
2 QW-3410AT-02TK

Note: 1. Prices and specifications are subject to change without prior notice.
2. Spare parts are classified as follows according to their importance in after-sales service.
A Rank ---------- Important
C Rank ---------- Not Important
3. Batteries in Bulk pack on the tray will be supplied from our Overseas Spare Parts Section under charge basis. Batteries in Blister pack will be supplied from our Sales Department.
4. As for order/supply of spare parts, refer to the separate publication "GUIDE BOOK for spare parts supply".

Attention to order
1. The most of normal repair or initial repair within 1year since released month can be done by main parts.
2. Minor parts should be ordered carefully in consideration of the actual usage of your repair and your technical skills.
3. Main parts should be ordered and stocked appropriately in consideration of your parts usage and repair usage for similar models.

MAIN PARTS

Item	Code No.	Parts Name	Specification	Q'TY		R
				1	2	
	10458934	MODULE/WITHOUT MOVEMENT	QW-3410AT-01TK	1		A
	10458935	MODULE/WITHOUT MOVEMENT	QW-3410AT-02TK		1	A
1a	10455089	LCD	K3410-01THP	1		A
1b	10455092	LCD	K3410-02THNP		1	A

MINOR PARTS

Item	Code No.	Parts Name	Specification	Q'TY		R
				1	2	
2	10382262	@BATTERY/LITHIUM-METAL(2)	CTL-920F/CS	1	1	C
3	10444618	CIRCUIT SUPPORTER 3414	RJQ568426-001V01	1	1	C
4	10354207	CONTACT/BATTERY(-)1828	Q359948-004V06	1	1	C
5	10105010	CUSHION 2608	Q471029-1	2	2	C
6	10300759	CUSHION 3145-3	RJQ543393-001V01	1	1	C
7	10301378	CUSHION 4334-1	RJQ532458-001V02	2	2	C
8	10168959	HOLDER/BATTERY 2730	Q255819-2V05	1	1	C
9	10444615	INTER CONNECTOR 3414	RJQ568428-001V01	2	2	C
10	10388831	LABEL 3260	RJQ557190-001V01	1	1	C
11	10448755	LED	RJQ558902*002ATTK	2	2	C
12	10444613	LIGHT GUIDE 3414	RJQ568427-001V01	1	1	C
13	10444614	REFRECTOR 3414	RJQ568553-001V01	1	1	C
14	10456277	REFLECTOR 3414-2	RJQ570923-001V01	2	2	C
15	72300511	SPRING/COIL 1253-2	Q439219-1	1	1	C

Notes: R - Rank
A: Important
C: Not Important

Item	Code No.	Parts Name	Specification	Q'TY		R
				1	2	
16	72301004	SPRING/COIL 1253-2	Q439219A-2	2	2	C
17	10124960	SPRING/COIL 2763-1	Q471262-1	2	2	C
18	10415262	SPRING/COIL 5140-2	RJQ552453-002V01	4	4	C
	For the prices and minimum order/supply quantities of the above parts, refer to the Parts Price List P.L.-719.					

Notes: R - Rank
A: Important
C: Not Important

5. REPLACEMENT OF BATTERY: MODULE QW-3410

5-1. OPEN DISPLAY

This model is equipped with EEPROM. When the back cover is open, a message “OPEN” is displayed on the LCD.

The watch is in the Timekeeping mode. Returns to the usual display when the cover is closed.

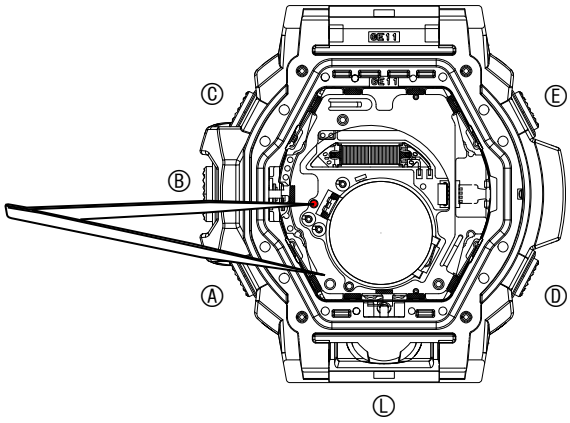
5-2. AC (ALL CLEAR)

Be sure to perform AC (All Clear) after a battery is replaced.

Unless AC is performed, the memory(s) and/or counter(s) may not be initialized and cause malfunctions.

1) Touch the AC contact and the CIRCUIT SUPPORTER 3414 with metallic tweezers.
   The contact should be made for about two seconds.
2) Close the back cover.
3) Press any button except Ⓔ to go to the Timekeeping mode.
   Without pressing buttons, it takes approximately one minute to automatically go to the Timekeeping mode.

* When removing the back cover, do not misplace the spring/coils.



5-3. SETTINGS AFTER AC

Function	Settings
After AC Mode	Timekeeping Mode (after pushing any button except Ⓔ.)
Timekeeping Mode	Date and time: Friday, January 1, 2010 12:00:00 AM Display Switching: date, day of the week, hour, minute, second Home Time DST: AUTO Power-saving: ON Button Operation Tone: BEEP (ON) Auto Light: OFF Backlight afterglow: 1.5 sec (LIGHT1) Battery Level: HIGH Note: The voltage is checked with the timing of a minute carry, and then the actual battery level is displayed. Home City Code: TYO (UTC+9) Latitude/Longitude: Latitude 35.7 degrees north, longitude 139.7 degrees east Temperature Unit: °C Altitude Unit: m Barometric Pressure Unit: hPa Barometric Pressure Graph: OFF Barometric Pressure Information: OFF
World Time	WT City Code: UTC Time: 3:00:00 PM DST: All Cities OFF
Stopwatch	Setting: “Reset” (0H 00’ 00 00)
Countdown Timer	Setting: “Reset” (0H 10’ 00) Start Time: 0H 10’ 00
Alarm	Display: Alarm 1 Time: 12:00 AM (AL1-4, SNZ) Alarm: OFF (AL1-4) Snooze: OFF Hourly Time Signal: OFF
Sunrise/Sunset	Calculation starts when the mode is switched from the Time-keeping Mode. Date: Home City Sunrise/Sunset Time: cleared (Calculating)
Altitude recall	Setting: Blank pages Manual Memory data: cleared Auto Memory data: cleared
Signal Reception	Last Reception Display: “— : — — / — — — —” Auto reception: ON (Home City Code/TYO) Display: RECEIVED (Sweeping Display)
Altimeter	Altitude data: cleared Altitude tendency graph: cleared Altitude difference graph: cleared Altitude unit: meters (m) Altitude Offset: OFF Baseline altitude of altitude difference indicator: 0 m Display: Altitude tendency graph

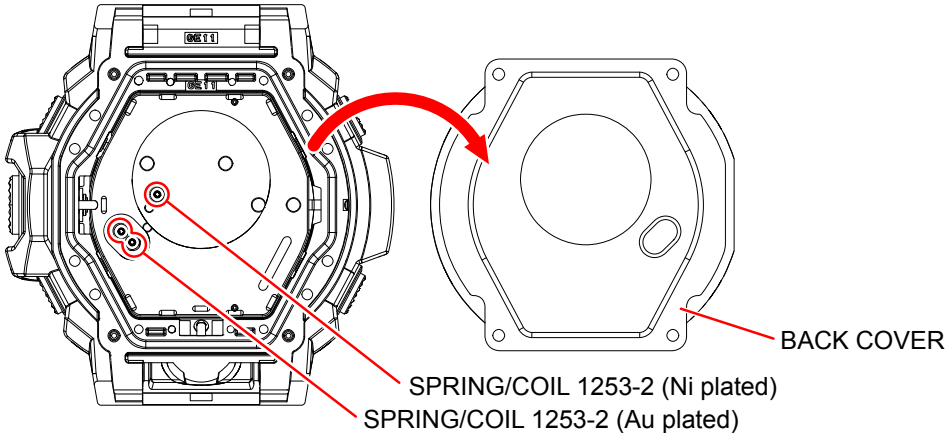
Function	Settings
Digital Compass	Magnetic Declination Angle Correction Value: 0° Magnetic Declination Correction: OFF Display: 4-directional graphic display
Barometer	Barometric Pressure / Temperature data: cleared Barometric Pressure tendency graph: cleared Pressure differential graphic: cleared Barometric Pressure Unit: hPa Temperature Unit: °C Temperature / Barometric Pressure Offset: OFF Barometric Pressure tendency Information: OFF

6. DISASSEMBLY AND REASSEMBLY: MODULE QW-3410

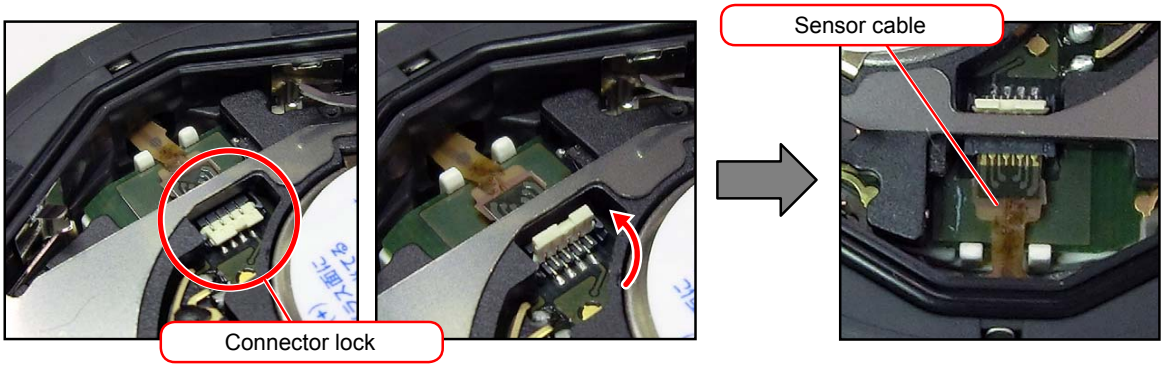
Note: The pressure sensor may be replaced separately.
The temperature sensor is mounted on the flexible board of the pressure sensor; therefore, replacing the pressure sensor may repair some temperature measurement failures.
The O ring for the back cover has 6H, and 12H sides.
Be careful to place the O ring in the right direction.

6-1. REMOVING THE MODULE

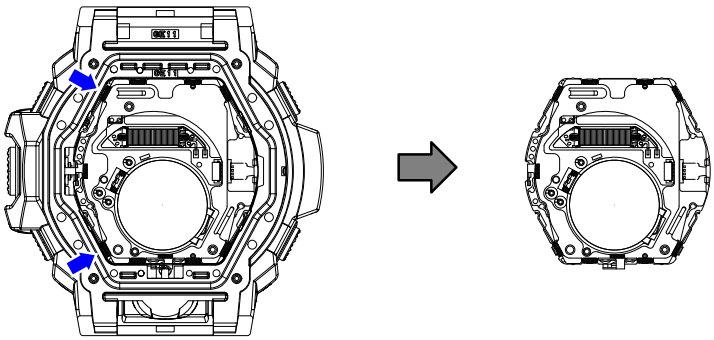
1) When removing the back cover, do not misplace the spring/coils.



2) Release the Connector lock.
3) Remove the Sensor cable.

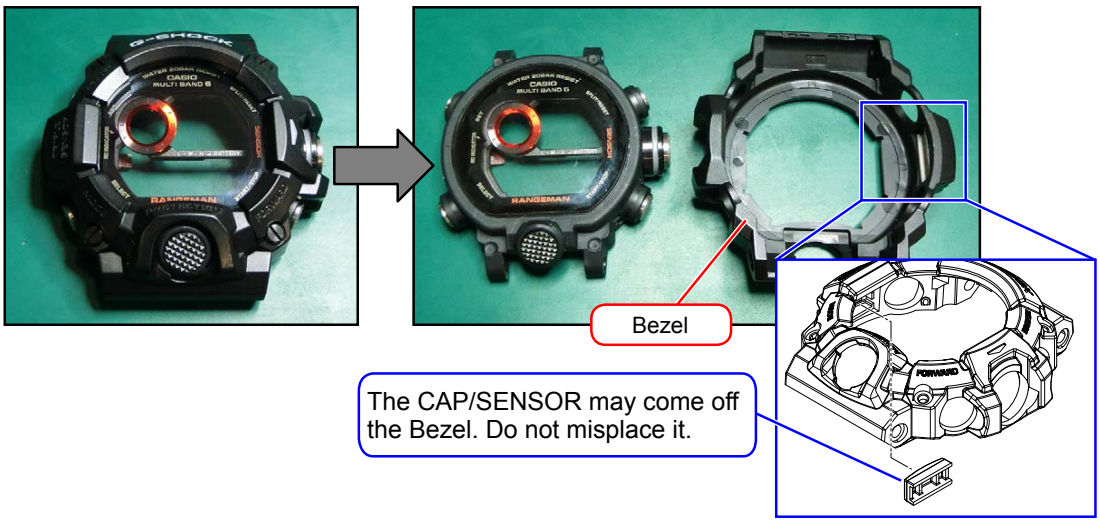


4) Please insert a precision screw driver into the gaps pointed by arrows between the module and the case.

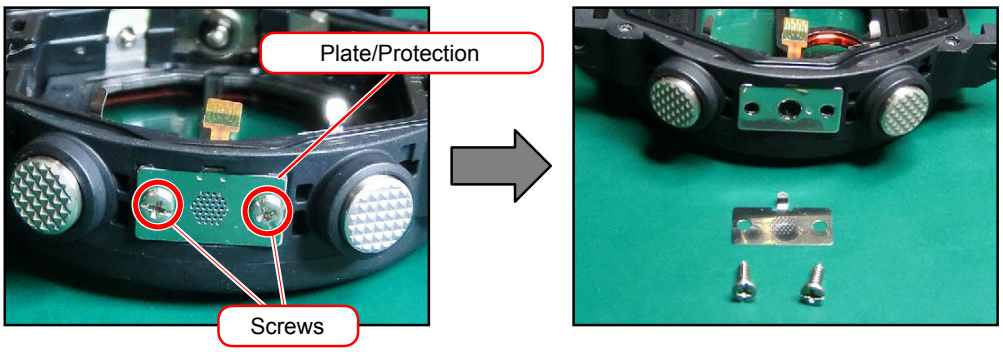


6-2. REMOVING THE SENSOR

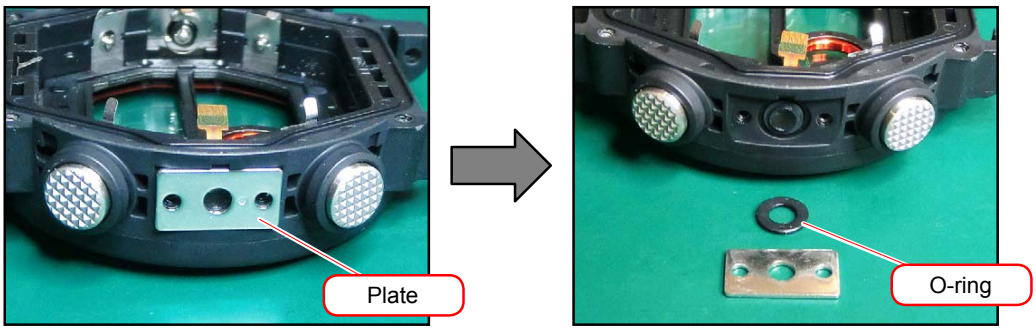
1) Remove the Bezel.



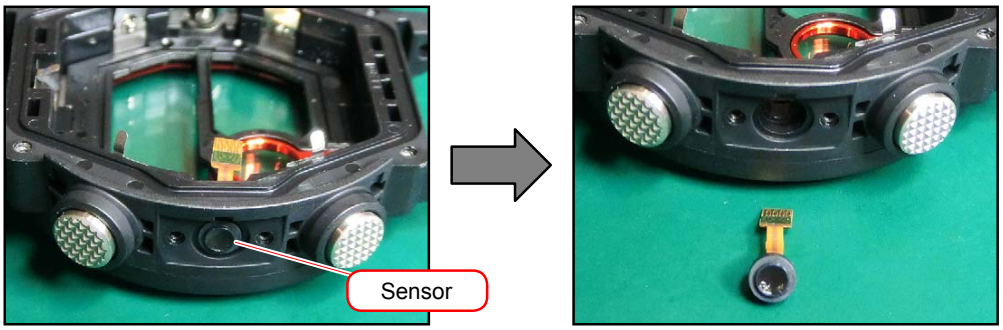
2) Undo two screws and the Plate/Protection.



3) Remove the Plate and O-ring.

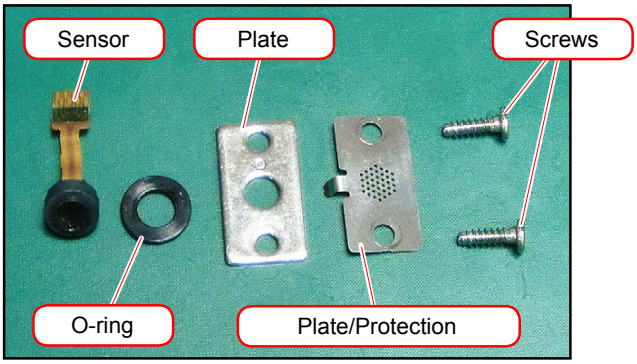


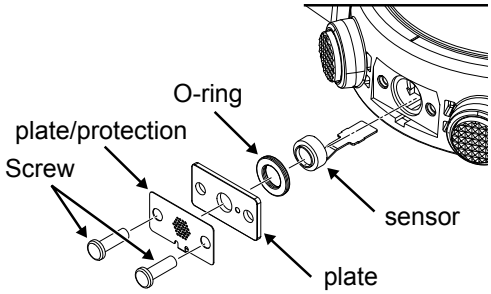
4) Remove the Sensor.



6-3. ASSEMBLING THE SENSOR

Please refer to the photo and the illustration below for the component structure of the Sensor.

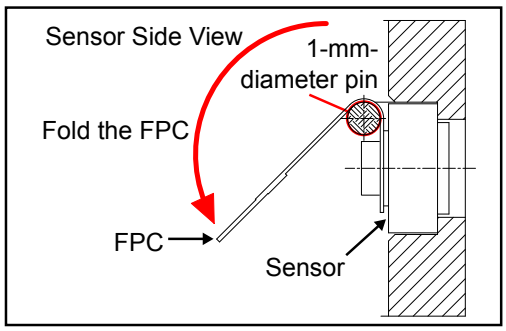




Cautions concerning Assembling

When replacing the sensor, fold the new sensor cable into shape.

1) Secure the sensor in place.
2) Use a pin with 1-mm diameter to shape the sensor cable.
   Do not crease the sensor cable when shaping it.

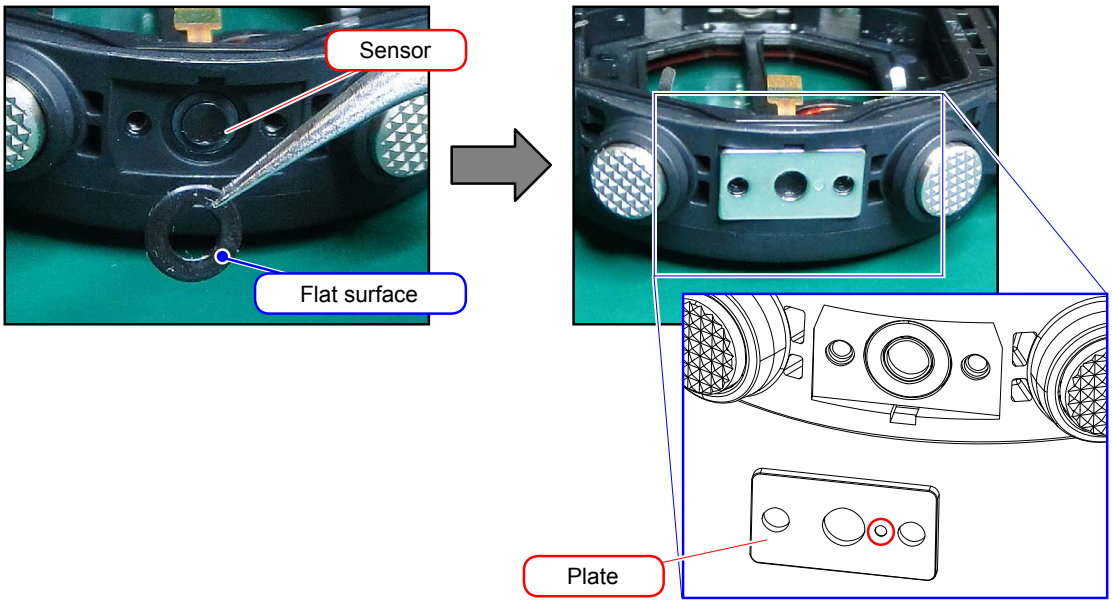


1) Set Sensor and O-ring.

Cautions concerning Assembling

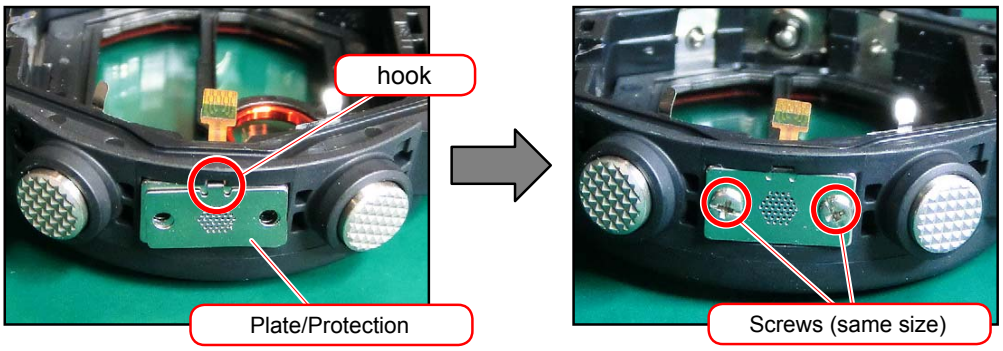
The Flat surface of the O-ring faces the Plate.

2) Set Plate, giving attention to its direction.



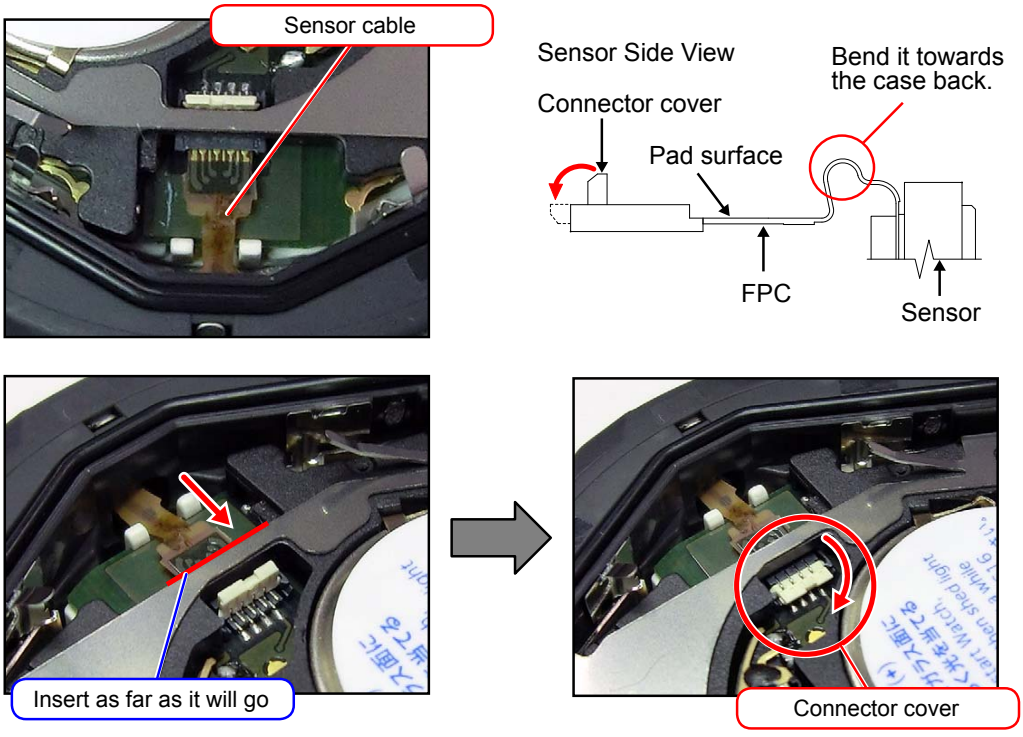
3) Position the Plate/Protection correctly on the plate, aligning the hook of the Plate/Protection to the hook-hole of the case. The hook is on the Back Cover side.

4) Attach the Plate/Protection with two screws.



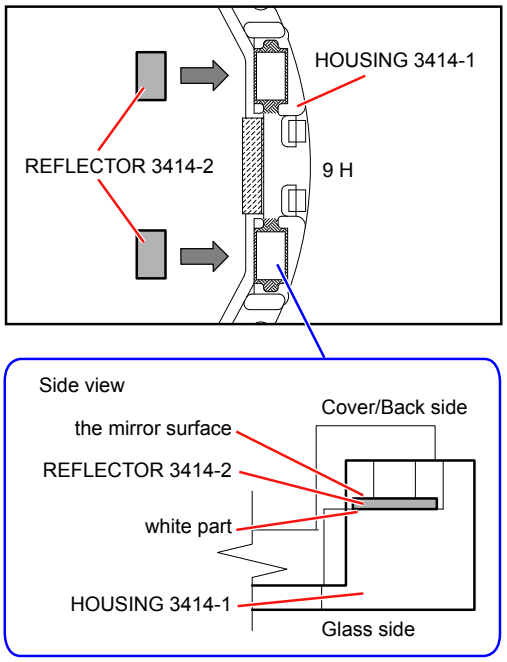
5) Insert the sensor cable into the connector as far as it will go and then close the cover. (The Back Cover side is the pad surface)

Note: Form the pressure sensor FPC into shape before installing it.

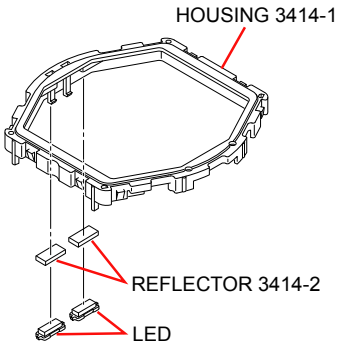


6-4. ATTACHING LED AND SPRING/COIL 5140-2

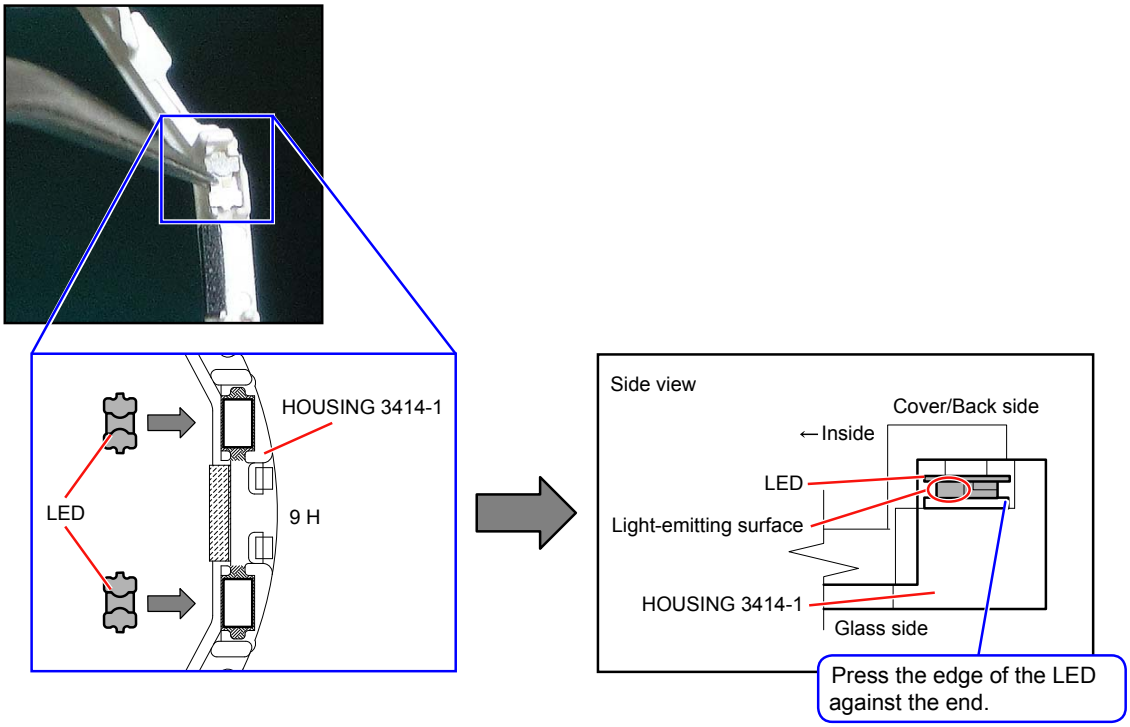
1) Remove the liner paper from the bottom surface (white part) of the REFLECTOR 3414-2, and attach it to the HOUSING 3414-1 in the position shown in the illustration below. The upper surface (the mirror surface) faces the Cover/Back.



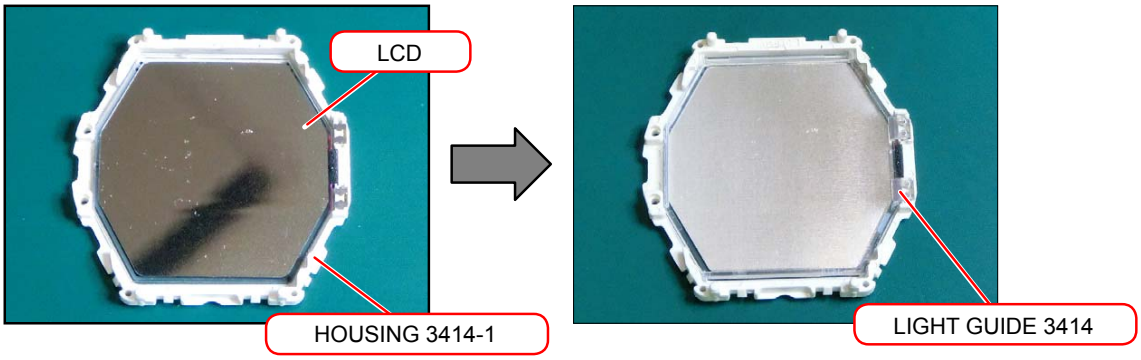
Configuration diagram



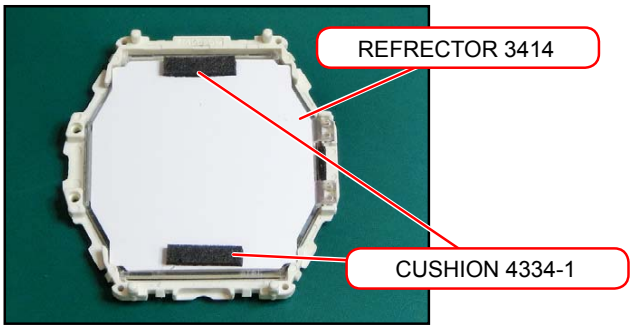
2) Attach LED to the HOUSING 3414-1.
Orientation of LED: the light-emitting surface (white part) faces inside, and the terminal surface faces the Cover/Back.



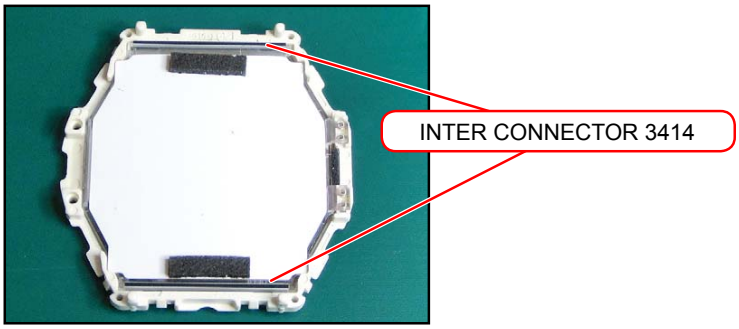
3) Attach the LCD to the HOUSING 3414-1.
Attach the LIGHT GUIDE 3414 to the LCD.



4) Attach the REFRECTOR 3414 and the CUSHION 4334-1.

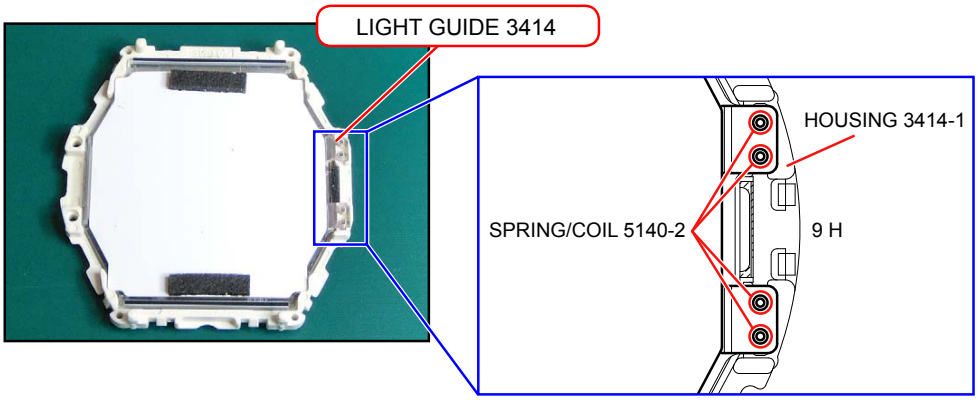


5) Attach INTER CONNECTOR 3414 to the LIGHT GUIDE 3414.



6) Attach the SPRING/COIL 5140-2 for the LED to the LIGHT GUIDE 3414.

Note: Do not misplace the parts when assembling.



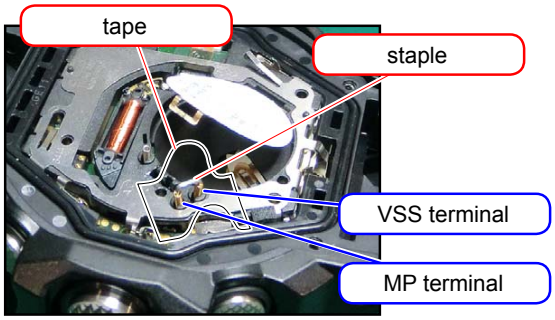
7. TESTING: MODULE QW-3410

7-1. MEASURING CURRENT CONSUMPTION

If irregularity of current consumption is suspected, measure the current consumption.

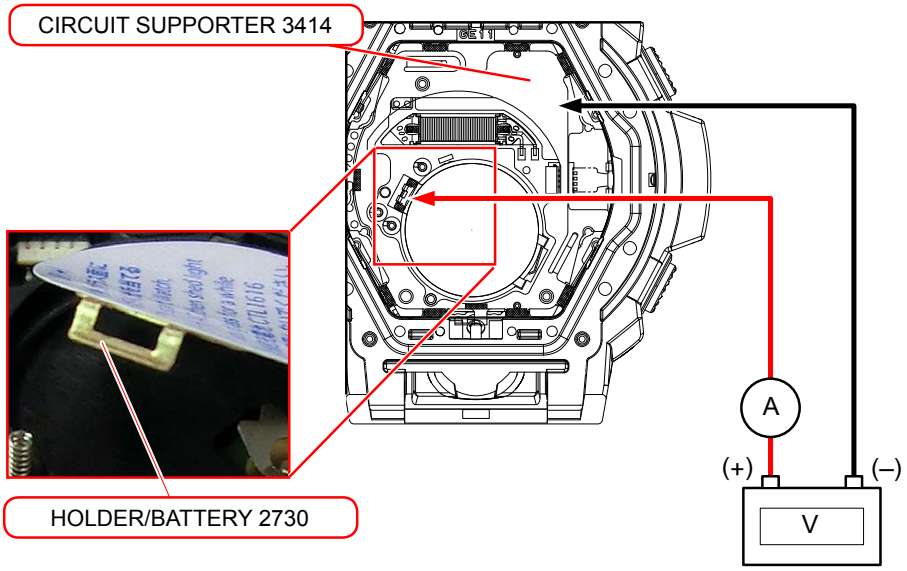
•Condition

Short-circuit the MP and VSS terminals using a metal object like a staple.



Use a stable power source and an ammeter.

Connect the positive electrode to the HOLDER/BATTERY 2730, the negative electrode to the CIRCUIT SUPPORTER 3414.



1) Apply a voltage of 2.5.
2) Perform AC.
3) Wait two seconds.
4) Shield the dial from light.
5) Measure the current.

7-2. ACCURACY CHECKING

Check the accuracy of the module with a quartz timer after switching the module to [ACCURACY CHECKING MODE].

The operations are shown below:

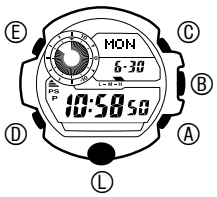
1) SWITCHING TO [ACCURACY CHECKING MODE]

While pressing the Ⓔ button, press Ⓐ and Ⓓ buttons in the normal timekeeping mode.

Then the LCD drive signals are changed to 1/4 duty drive signals so that you can check the accuracy with the quartz timer.

Measure the accuracy value on the following conditions.

SENSOR	GATE TIME
LCD	16 seconds



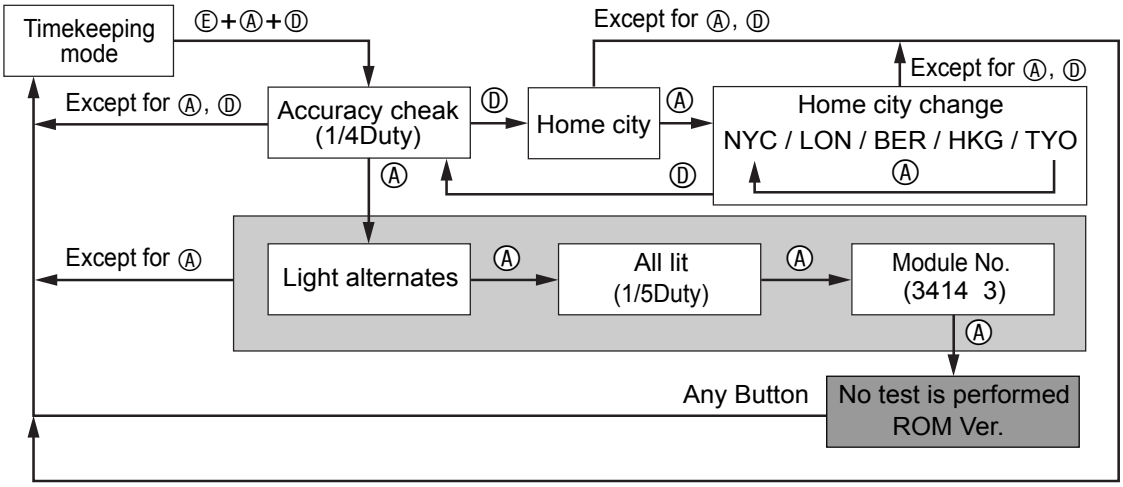
QW-3410

2) CANCELLATION OF THE [ACCURACY CHECKING MODE]

Press Ⓑ, Ⓒ, Ⓔ, or Ⓛ.

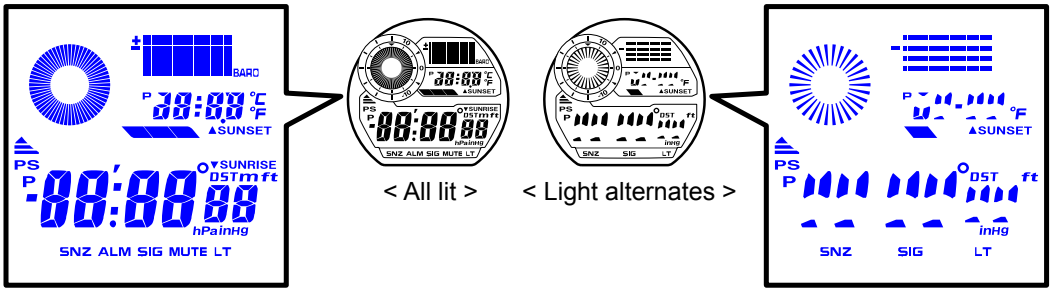
Then the watch returns to the Timekeeping mode.

The watch will also automatically return to the timekeeping mode in 1 ~ 2 hour(s) without any operation.



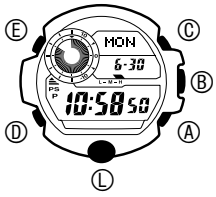
7-3. CHECKING THE LCD SEGMENTS

- All lit : Check that all the segments are lit.
- Light alternates: Check that only the specified segments are lit.



7-4. CONFIGURING HOME CITY

1) While in the Timekeeping mode, hold down Ⓔ and press Ⓐ and Ⓓ at the same time.
2) Press Ⓓ.
   The Home City is displayed on the LCD.
3) Each time Ⓐ is pressed, the Home City switches in the order below.



QW-3410

NYC → LON → PAR → HKG → TYO

Configuration of each home city

HOME CITY	LCD	Calibration signal	DST Setting (After AC)
NYC	NYC	WWVB	OFF
LON	LON	MSF	
BER	BER	DCF77	
HKG	HKG	BPC	
TYO	TYO	JJY40/60	

4) Exiting the Test mode.
   Press Ⓓ to return to the accuracy checking mode.

7-5. SOLAR CELL-PCB ASS'Y CONTACT CHECKING

Check a Solar cell and PCB ass'y are contacted correctly by contact springs, when a module is assembled.

1) Enter the TEST mode in a sufficiently-lit area with its face up.
   1-1) While pressing Ⓔ button, press Ⓓ and Ⓒ buttons in the normal timekeeping mode.

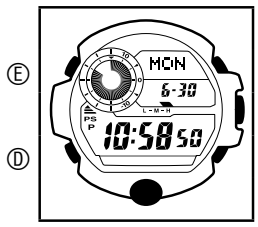


Figure 1

Ⓔ + Ⓓ + Ⓒ

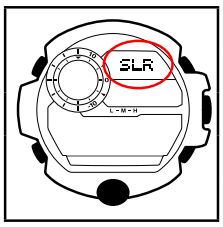
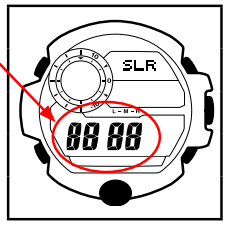


Figure 2

SLR Bright

2) Check a Solar cell and PCB ass'y contact in the following order.
   2-1) Check that only "SLR" is displayed as shown in Figure 2, and wait 5 seconds.
   2-2) Check that the display remains the same.
   2-3) Place the watch on a desk with its glass face down for 5 seconds or more. Or go to a dark area and leave the watch for 5 seconds or more.
   2-4) Check that "8888" appears on the display indicating that light is insufficient.

Appear "8888" on display.



Once "8888" appears, the display remains the same even after the watch face is exposed to light.

Figure 3

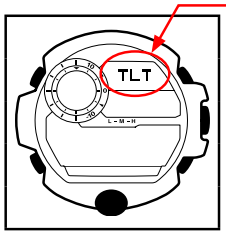
3) To exit from the TEST mode, press any button except Ⓓ.

7-6. HOW TO CHECK TILT SENSOR

1) While pressing Ⓔ button, press Ⓓ and Ⓒ buttons in the normal timekeeping mode.
   Press Ⓓ.
2) Check the display indicates as figure 4.
3) Tilt the watch in the way that the "6-o'clock" end of the face is lowered. (45°)
4) Check the display indicates as figure 5.
5) One tilting cycle is 0°(1 sec.) → 45°(1 sec.) → 0°.
   Repeat the cycle 3 times and check "8888" appears twice or more.

"TLT " and "8888" appears on display. (twice or more)

"TLT" appears on display.



Tilt the watch in the way that the "6-o'clock" end of the face is lowered.
(Repeat the cycle 3 times.)

Figure 4

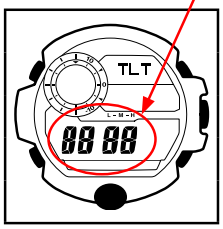
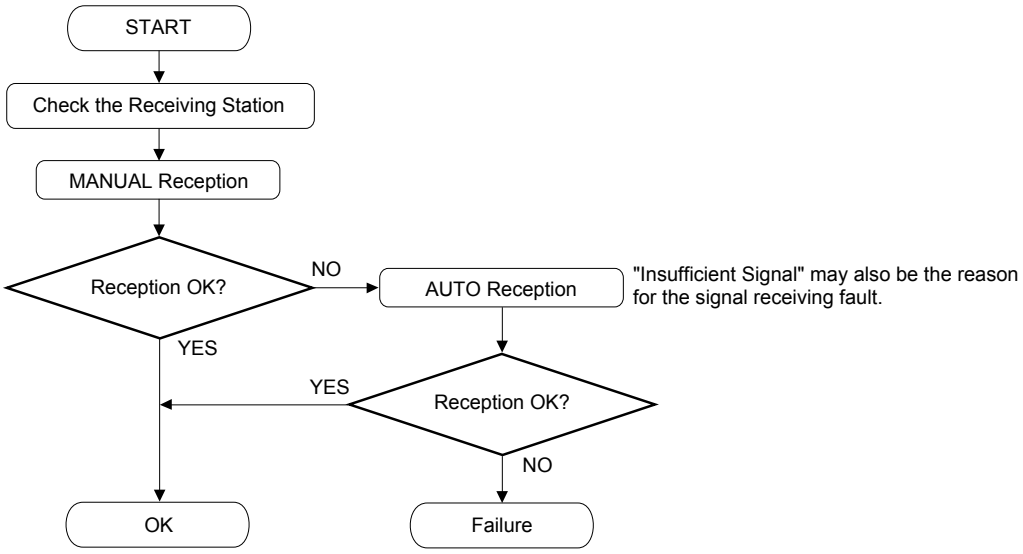


Figure 5

6) To exit from TEST mode, press any button except Ⓓ.

7-7. TIME CALIBRATION SIGNAL TEST

A signal reception failure may be caused by a number of reasons.
Follow the steps shown in the flowchart below to run the signal receiving test.



Insufficient Signal

The time calibration signal may not be properly received under the following conditions.

- The strength of the signal has changed due to season or time of day
- The watch is placed in the reinforced concrete building
- There is a broadcasting station nearby
- Strong enough signal cannot be received due to the position of the watch

---

The real signal in China differs from the signal for the test with TEM cell.

* To check the real signal reception in China, perform the inspection in the normal mode.

* To check the signal reception for China with TEM cell, perform the inspection in the Test Mode.

7-7-1. MANUAL/AUTO Reception

For details of MANUAL and AUTO reception modes, refer to the Operation Guide.

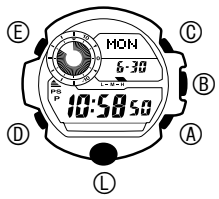
MANUAL Reception

While in the Timekeeping mode, press Ⓓ 7 times to go to the Reception mode. Holding down Ⓐ for two seconds starts the Reception.

Reception OK: The time is adjusted and “GET” appears on the display.

Reception NG: The time is not adjusted and “ERR” appears on the display.

Location of the buttons



* Press any button to end the manual reception, then the watch returns to the Reception mode.

* Press any button to end the reception result display, then the watch returns to the Reception mode. Or one or two minutes after displaying the result, the watch returns to the Reception mode automatically

* Press Ⓓ to return to the Timekeeping mode from the Reception mode.

AUTO Reception

Turn on the AUTO Reception setting. When AUTO Reception is turned ON, the calibration signal is automatically received up to 6 times from midnight through early morning.

(If reception is successful once, the subsequent AUTO reception will not be conducted on the same day.)

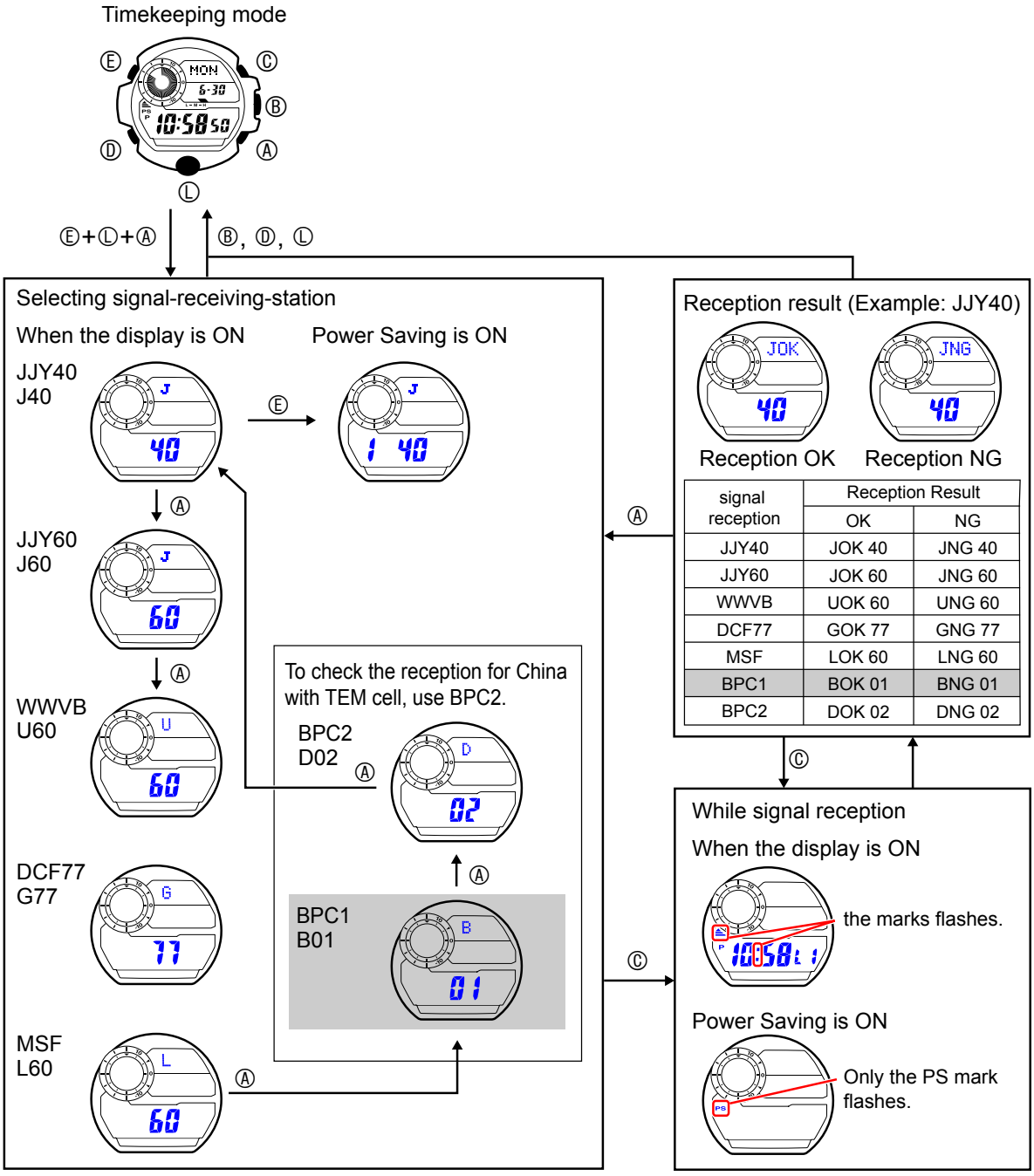
Whether reception was successful or not may be confirmed with [Last Receiving Date/Time] in the Reception mode.

(The date/time is updated after successful reception.)

Note: Auto Reception is conducted only in timekeeping mode and World Time mode.

7-7-2. TEST MODE

1) While in the Timekeeping mode, hold down Ⓔ and press Ⓛ and Ⓐ at the same time to go to the Selecting signal-receiving-station mode in the Time Calibration Signal Test mode.
2) Each time Ⓐ is pressed, the signal receiving station changes as shown below.
3) Press Ⓒ to start receiving a signal.
4) Pressing any button during reception results in a reception failure.
5) After approximately 7 minutes, check the indication and determine the result by refering to the table below.
6) In the Test mode, press Ⓑ, Ⓓ, or Ⓛ to return to the Timekeeping mode.
Or one to two hours after the last button operation, the watch returns to the Timekeeping mode automatically



signal reception	Reception Result	
	OK	NG
JJY40	JOK 40	JNG 40
JJY60	JOK 60	JNG 60
WWVB	UOK 60	UNG 60
DCF77	GOK 77	GNG 77
MSF	LOK 60	LNG 60
BPC1	BOK 01	BNG 01
BPC2	DOK 02	DNG 02

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