SERVICE MANUAL
& PARTS LIST

MODULE NO.

QW-2960

BGX-260

CASIO®

(WITHOUT PRICE)

CONTENTS

## 1. SPECIFICATIONS: MODULE QW-2960

Item	Detail
Battery	CTL1616 (Storage battery) **Note: Use CTL1616 only. Other storage battery or CR1616 can cause damage to the watch.**
Battery life	Approx. 1 year (from full charged condition)
Current consumption	1.05 µA maximum
Alarm system	Piezo plate on Cover/Back
Accuracy	±15 sec./month
Accuracy setting system	Trimmer capacitor
Accuracy checking	See page 13

Functions	• Shock resistant
	• Electro-luminescent backlight
	  Full auto EL light
	• Solar powered
	• World time
	  29 time zones (27 cities), city code display, daylight saving on/off
	• Moon Data (with Moon age indicator)
	• Tide graph
	  Graphical tide display
	• 1/100-second stopwatch
	  Measuring capacity: 59'59.99"
	  Measuring modes: Elapsed time, split time, 1st-2nd place times
	• Countdown timer
	  Measuring unit: 1 second
	  Countdown range: 60 minutes
	  Countdown start time setting range: 1 to 60 minutes (1-minute Increments)
	  Others: Auto-repeat, time up alarm, reset time setting (up to 5 minutes), count up after countdown (up to 100 hours)
	• Daily alarms
	  5 independent daily alarms (4 one-time alarms and 1 snooze alarm)
	• Hourly time signal
	• Battery power indicator
	• Power Saving (Turns off the display when the watch is left in the dark)
	• Auto-calendar (to year 2039)
	• 12/24-hour format
	• Regular timekeeping: Hour, minutes, seconds, pm, year, month, date, day

2. OPERATION CHART: MODULE QW-2960

Getting Acquainted

Congratulations upon your selection of this CASIO watch. To get the most out of your purchase, be sure to read this manual carefully and keep it on hand for later reference when necessary.

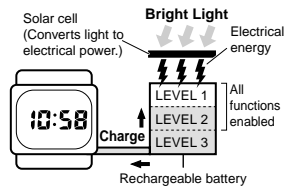### Keep the watch exposed to bright light
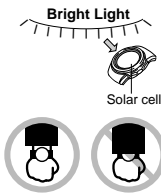
The electricity generated by the solar cell of the watch is stored by a built-in battery. Leaving or using the watch where it is not exposed to light causes the battery to run down. Make sure the watch is exposed to light as much as possible.
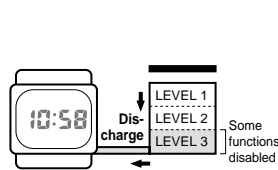
- When you are not wearing the watch on your wrist, position the face so it is pointed at a source of bright light.
- You should try to keep the watch outside of your sleeve as much as possible. Even if the face of the watch is only partially blocked from light, charging will be reduced significantly.

- The watch continues to operate, even when it is not exposed to light. Leaving the watch in the dark can cause the battery to run down, which will cause some watch functions to be disabled. If the battery goes dead, you will have to re-configure watch settings after recharging. To ensure normal watch operation, be sure to keep it exposed to light as much as possible.
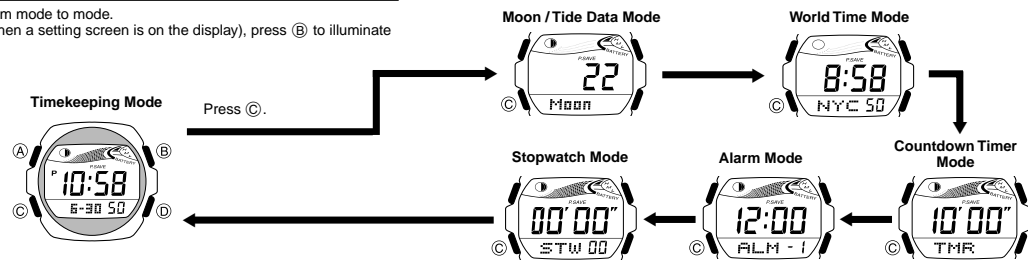
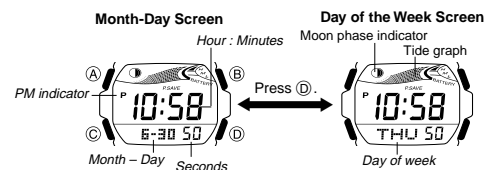**Battery charges in the light.**   **Battery discharges in the dark.**

- The actual level at which some functions are disabled depends on the watch model.
- Frequent display illumination can run down the battery quickly and require charging. The following guidelines give an idea of the charging time required to recover from a single illumination operation.
    Approximately 5 minutes exposure to bright sunlight coming in through a window
    Approximately 50 minutes exposure to indoor fluorescent lighting
- **Be sure to read "Power Supply" for important information you need to know when exposing the watch to bright light.**

If the display of the watch is blank...

If the display of the watch is blank, it means that the watch's Power Saving function has turned off the display to conserve power.
- **See "Power Saving Function" for more information.**

Warning!
- The longitude, lunitidal interval, Moon phase indicator and tide graph data that appear on the display of this watch are not intended for navigation purposes. Always use proper instruments and resources to obtain data for navigation purposes.
- This watch is not an instrument for calculating low tide and high tide times. The tide graph of this watch is intended to provide a reasonable approximation of tidal movements only.
- CASIO COMPUTER CO., LTD. assumes no responsibility for any loss, or any claims by third parties that may arise through the use of this watch.

About This Manual

- Button operations are indicated using the letters shown in the illustration.
- Each section of this manual provides you with the information you need to perform operations in each mode. Further details and technical information can be found in the "Reference" section.

General Guide

- Press Ⓒ to change from mode to mode.
- In any mode (except when a setting screen is on the display), press Ⓑ to illuminate the display.

Timekeeping Mode   Press Ⓒ.

Moon / Tide Data Mode   **World Time Mode**

Stopwatch Mode   **Alarm Mode**   **Countdown Timer Mode**

Timekeeping

Use the Timekeeping Mode to set and view the current time and date.

Month-Day Screen   **Day of the Week Screen**

Hour : Minutes   Moon phase indicator
          Tide graph
PM indicator   Press Ⓓ.
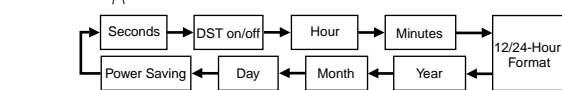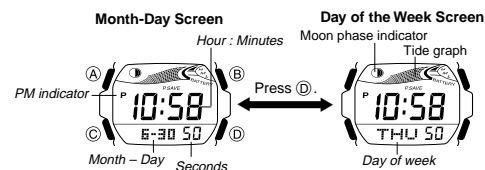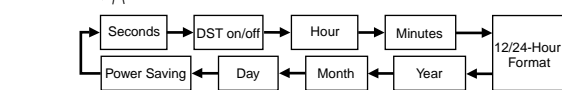*Month – Day* *Seconds*   *Day of week*

- The tide graph shows tidal movements for the current date in accordance with the current time as kept in the Timekeeping Mode.
- The Moon phase indicator shows the current Moon phase in accordance with the current date as kept in the Timekeeping Mode.

Important!
- Moon phase, tide graph data, and Moon/Tide Data Mode data will not be displayed properly unless the Timekeeping Mode current date and time settings and Home Site data are configured correctly. See "Home Site Data" for more information.

To set the time and date

1. In the Timekeeping Mode, hold down Ⓐ until the seconds start to flash, which indicates the setting screen.
2. Press Ⓒ to move the flashing in the sequence shown below to select other settings.

```
Seconds → DST on/off → Hour → Minutes → 12/24-Hour Format
Power Saving ← Day ← Month ← Year ←
```

3. When the setting you want to change is flashing, use Ⓓ and Ⓑ to change it as described below.

To change this setting	Perform this button operation
Seconds	Press Ⓓ to reset to 00.
DST on/off	Press Ⓓ to toggle between Daylight Saving Time (ON) and Standard Time (OF).
Hour, Minutes, Year, Month, Day	Use Ⓓ (+) and Ⓑ (–) to change the setting.
12/24-Hour Format	Press Ⓓ to toggle between 12-hour (12H) and 24-hour (24H) timekeeping.
Power Saving	Press Ⓓ to toggle Power Saving on (ON) and off (OF).

4. Press Ⓐ twice to exit the setting screen.
- The first press of Ⓐ displays the GMT differential setting screen. Pressing Ⓐ again exits the setting screen.
- Daylight Saving Time (summer time) advances the time setting by one hour from Standard Time. Remember that not all countries or even local areas use Daylight Saving Time.
- The **DST** indicator appears on the display to indicate that Daylight Saving Time is turned on.
- See "Power Saving Function" for details about configuring Power Saving settings.
- The 12-hour/24-hour timekeeping format you select in the Timekeeping Mode is applied in all modes.
- The day of the week is automatically displayed in accordance with the date (year, month, and day) settings.

Home Site Data

Moon phase, tide graph data, and Moon/Tide Data Mode data will not be displayed properly unless the Timekeeping Mode current date and time settings and Home Site data (GMT differential, longitude, and lunitidal interval) is configured correctly.
- The GMT differential is the time difference of the time zone where the site is located and Greenwich Mean Time.
- The lunitidal interval is the time elapsing between the Moon's transit over a meridian and the next high tide at that meridian. See "Lunitidal Interval" for more information.
- This watch displays lunitidal intervals in terms of hours and minutes.
- The "Site/Lunitidal Interval Data List" provide GMT differential, longitude, and lunitidal interval information around the world.
- The following is the initial factory default Home Site data (Tokyo, Japan) when you first purchase the watch, whenever battery power drops to Level 4, and whenever you have the battery replaced. Change these settings to match the area where you normally use the watch.
    GMT differential (+9.0); Longitude (East 140 degrees); Lunitidal interval (5 hours, 20 minutes)

To configure Home Site data
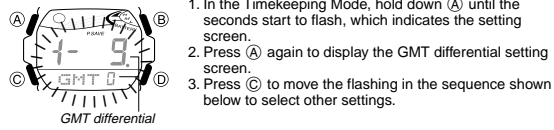
1. In the Timekeeping Mode, hold down Ⓐ until the seconds start to flash, which indicates the setting screen.
2. Press Ⓐ again to display the GMT differential setting screen.
3. Press Ⓒ to move the flashing in the sequence shown below to select other settings.

GMT differential

| GMT differential | → | Longitude | → | Lunitidal Interval Hours | → | Lunitidal Interval Minutes | → |
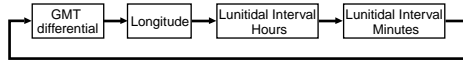
4. When the setting you want to change is flashing, use Ⓓ and Ⓑ to change it as described below.

Setting	Screen	Button Operations
GMT differential	`1- 9.` `GMT 0`	Use Ⓓ (+) and Ⓑ (–) to change the setting. • You can specify a value in the range of –11.0 to +14.0, in 0.5-hour unit.
Longitude	`140°` `LON E`	Use Ⓓ (+) and Ⓑ (–) to change the setting. • You can specify a value in the range of 179°W to 180°E, in 1-degree units.
Lunitidal Interval Hours, Minutes	`5:20` `INT`	Use Ⓓ (+) and Ⓑ (–) to change the setting.

5. Press Ⓐ to exit the setting screen.

Moon/Tide Data

Moon phase indicator
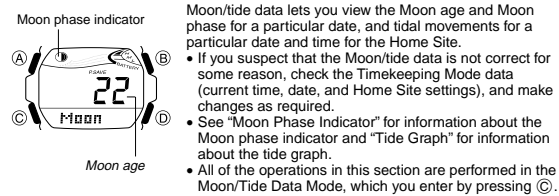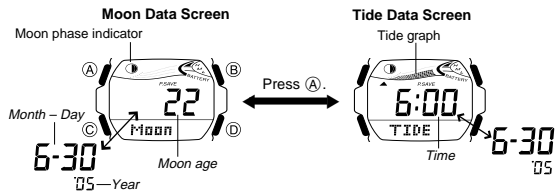
Moon age

Moon/tide data lets you view the Moon age and Moon phase for a particular date, and tidal movements for a particular date and time for the Home Site.
• If you suspect that the Moon/tide data is not correct for some reason, check the Timekeeping Mode data (current time, date, and Home Site settings), and make changes as required.
• See "Moon Phase Indicator" for information about the Moon phase indicator and "Tide Graph" for information about the tide graph.
• All of the operations in this section are performed in the Moon/Tide Data Mode, which you enter by pressing Ⓒ.

Moon/Tide Data Screens
Each press of Ⓐ in the Moon/Tide Data Mode toggles between the Moon Data screen and the Tide Data screen.

Moon Data Screen

Moon phase indicator

Month – Day

Moon age

'05 — Year

Press Ⓐ.

Tide Data Screen

Tide graph

Time

• When you enter the Moon/Tide Data Mode, the data that appears first is the Moon data (Moon age and Moon phase indicator) for the current date as kept by the Timekeeping Mode.

To view the Moon data for a particular date
While the Moon Data screen is displayed in the Moon/Tide Data Mode, use Ⓓ (+) to display the date whose Moon data you want to view.
• You can select any date starting from the date currently indicated in the Timekeeping Mode, up to the year 2039. Display of past Moon data and tide data is not supported.

To view tide data for a particular date
1. While the Moon Data screen is displayed in the Moon/Tide Data Mode, use Ⓓ (+) to display the date whose tide data you want to view.
2. Press Ⓐ to switch to the Tide Data screen.
   • The initial screen shows the tide graph for 6:00 AM.
3. Specify the time for which you want to display tide data.
• Use Ⓓ (+) to change the time in one-hour steps.

World Time

*Current time in the selected city code*

City code

GMT differential
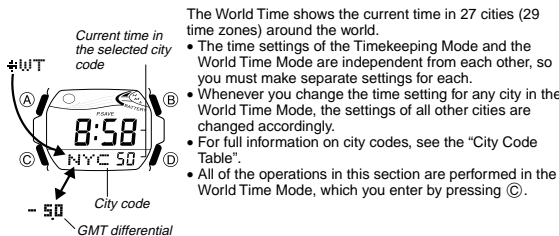
The World Time shows the current time in 27 cities (29 time zones) around the world.
• The time settings of the Timekeeping Mode and the World Time Mode are independent from each other, so you must make separate settings for each.
• Whenever you change the time setting for any city in the World Time Mode, the settings of all other cities are changed accordingly.
• For full information on city codes, see the "City Code Table".
• All of the operations in this section are performed in the World Time Mode, which you enter by pressing Ⓒ.

To view the time in another city code
In the World Time Mode, press Ⓓ to scroll through city codes (time zones).

To set the current time in the World Time Mode
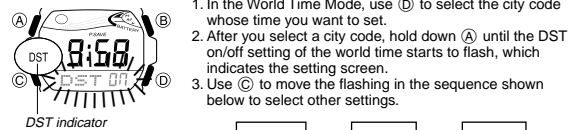
1. In the World Time Mode, use Ⓓ to select the city code whose time you want to set.
2. After you select a city code, hold down Ⓐ until the DST on/off setting of the world time starts to flash, which indicates the setting screen.
3. Use Ⓒ to move the flashing in the sequence shown below to select other settings.

DST indicator

| DST on/off | → | Hour | → | Minutes | → |

4. When the setting you want to change is flashing, use Ⓑ and Ⓓ to change it as described below.

To change this setting	Perform this button operation
DST on/off	Press Ⓓ to toggle between Daylight Saving Time (`ON`) and standard time (`OF`).
Hour, Minutes	Use Ⓓ (+) and Ⓑ (–) to change the setting.

• When setting the world time using the 12-hour format, take care to set the time correctly as a.m. (no indicator) or p.m. (**P** indicator).
5. Press Ⓐ to exit the setting screen.
• Note that you cannot switch between Standard Time and Daylight Saving Time while GMT is selected as the city code.
• Note that the DST/Standard Time setting affects only the currently displayed city code. Other city codes are not affected.
• The **DST** indicator is on the display whenever you display a city code for which Daylight Saving Time is turned on.

Countdown Timer

Minutes *Seconds*
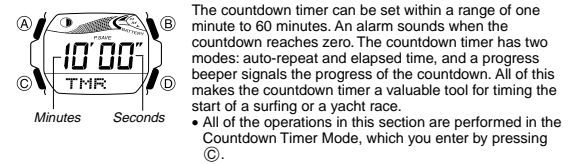
The countdown timer can be set within a range of one minute to 60 minutes. An alarm sounds when the countdown reaches zero. The countdown timer has two modes: auto-repeat and elapsed time, and a progress beeper signals the progress of the countdown. All of this makes the countdown timer a valuable tool for timing the start of a surfing or a yacht race.
• All of the operations in this section are performed in the Countdown Timer Mode, which you enter by pressing Ⓒ.

Configuring the Countdown Timer
The following are the settings you should configure before actually using the countdown timer.
  Countdown start time and reset time
  Timer mode (auto-repeat, elapsed time)
  Progress beeper on/off
• See "To configure the countdown timer" for information about setting up the timer.

Reset Time
You can specify any point between the countdown start time and the end of the countdown as the "reset time". Then while a countdown operation is in progress, you can press a button to jump to the reset time and resume the countdown from there.

Timer Mode
The countdown timer gives you a choice of two modes: auto-repeat and elapsed time.
Auto-repeat
The auto-repeat mode automatically restarts the countdown from the countdown start time you set whenever zero is reached.
• The auto-repeat mode is best when timing the starts of match races.
• Even if you start a countdown operation from the reset time, the countdown automatically restarts from the countdown start time whenever it reaches zero.
• Auto repeat timing repeats up to seven times.

Elapsed Time
When the end of the countdown is reached in the elapsed time mode, the timer automatically switches to an elapsed time measurement operation.
• The elapsed time mode is best when timing the speed of yachts during ocean races.
• The elapsed time operation is performed in one-second increments up to 99 hours, 59 minutes, 59 seconds.

Countdown Timer Beeper Operations
The watch beeps at various times during a countdown so you can keep informed about the countdown status without looking at the display. The following describes the types of beeper operations the watch performs during a countdown.

Countdown End Beeper
The watch emits a short beep each second of the final 10 seconds at the end of a countdown, and a long beep when the countdown reaches zero.
• The countdown end beeper always sounds, regardless of the on/off status of the progress beeper.

Progress Beeper
The progress beeper actually includes two beepers: a reset time beeper and a reset period progress beeper.
• The reset time beeper and reset period progress beeper sound only while the progress beeper is turned on.

Reset Time Beeper
The reset time beeper is similar to the countdown end beeper. When the progress beeper is turned on, the watch beeps each second of the final 10 seconds before the countdown reaches the reset time.

Reset Period Progress Beeper
The reset period is the portion of the countdown between the reset time and zero. When the progress beeper is turned on, the watch emits four short beeps at the top of each minute during the reset period, and 30 seconds before the end of the countdown.

Countdown Timer Examples
Countdown start time: 10 minutes; Reset time: 5 minutes; Timer mode: Auto-repeat;
Progress beeper: On

Reset Period

Start Time	Reset Time	Reset Period Progress Beeper	Countdown End Beeper
10'00"	5'00" 4'00" 3'00" 2'00" 1'00" 0'30" 0'00"		
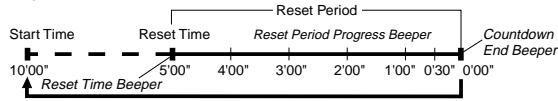
▲ Reset Time Beeper

Countdown start time: 10 minutes; Reset time: 5 minutes; Timer mode: Elapsed time;
Progress beeper: Off

Elapsed time measurement

Start Time   Reset Time

10'00"   5'00"   0'00"
                            Countdown
                            End Beeper
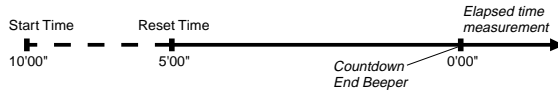
To configure the countdown timer

1. While the countdown start time is on the display in the Countdown Timer Mode, hold down Ⓐ until the countdown start time setting starts to flash, which indicates the setting screen.
   • If the countdown start time is not displayed, use the procedure under "To use the countdown timer" to display it.
2. Press Ⓒ to move the flashing in the sequence shown below to select other settings.

Start Time → Reset Time → Timer Mode → Progress Beeper

3. When the setting you want to change is flashing, use Ⓓ and Ⓑ to change it as described below.

Setting	Screen	Button Operations
Start Time	10˙00" TMR	Use Ⓓ (+) and Ⓑ (–) to change the setting. • You can set a start time in the range of 1 to 60 minutes in 1-minute increments.
Reset Time	5˙00" RST	Use Ⓓ (+) and Ⓑ (–) to change the setting. • You can set a reset time in the range of 1 to 5 minutes in 1-minute increments.
Timer Mode	On AUTO	Press Ⓓ to toggle between the auto-repeat mode (𝙊𝙉) and the elapsed time mode (𝙊𝙁𝙁). • An auto-repeat indicator (⟳) appears when the auto-repeat mode is selected.
Progress Beeper	On	Press Ⓓ to toggle progress beeper on (𝙊𝙉) and off (𝙊𝙁𝙁).

4. Press Ⓐ to exit the setting screen.
• The reset time setting must be less than the countdown start time setting.

To use the countdown timer

In the Countdown Timer Mode, press Ⓓ to start the countdown timer.
• The countdown timer measurement operation continues even if you exit the Countdown Timer Mode.
• The table below describes button operations you can perform to control countdown operations.

To do this:	Do this:
Stop the countdown operation	Press Ⓓ.
Resume a stopped countdown operation	Press Ⓓ again.
Display the countdown start time	While the countdown is stopped, press Ⓐ.
Stop the countdown operation and display the reset time	Press Ⓐ.
Start the countdown from the displayed reset time	Press Ⓓ.

• The table below describes button operations you can perform during an elapsed time measurement operation in the elapsed time mode.

To do this:	Do this:
Stop the elapsed time operation	Press Ⓓ.
Resume a stopped elapsed time operation	Press Ⓓ again.
Display the countdown start time	While the elapsed time is stopped, press Ⓐ.
Stop the elapsed time operation and display the reset time	Press Ⓐ.
Start the countdown from the displayed reset time	Press Ⓓ.

Alarms

Alarm time
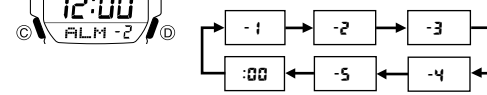(Hour : Minutes)

Ⓐ Ⓑ
Ⓒ Ⓓ

Alarm number

SNZ

You can set five independent Daily Alarms. When an alarm is turned on, the alarm tone sounds when the alarm time is reached. One of the alarms can be configured as a snooze alarm or a one-time alarm, while the other four are one-time alarms.
You can also turn on an Hourly Time Signal that causes the watch to beep twice every hour on the hour.
• There are five alarm screens numbered 𝟭 through 𝟱. The hourly time signal screen is indicated by :𝟬𝟬.
• When you enter the Alarm Mode, the screen you were viewing when you last exited the mode appears first.
• All of the operations in this section are performed in the Alarm Mode, which you enter by pressing Ⓒ.

To set an alarm time

Ⓐ Ⓑ
Ⓒ Ⓓ

1. In the Alarm Mode, use Ⓓ to scroll through the alarm screens until the one whose time you want to set is displayed.

-1 → -2 → -3
:00 ← -5 ← -4

• You can configure Alarm 𝟭 as a snooze alarm or a one-time alarm. Alarms 𝟮 through 𝟱 can be used as one-time alarms only.
• The snooze alarm repeats every five minutes.
2. After you select an alarm, hold down Ⓐ until the hour setting of the alarm time starts to flash. This indicates the setting screen.
   • This operation automatically turns on the alarm.
3. Press Ⓒ to move the flashing between the hour and minute settings.
4. While a setting is flashing, use Ⓓ (+) and Ⓑ (–) to change it.
   • When setting the alarm time using the 12-hour format, take care to set the time correctly as a.m. (no indicator) or p.m. (**P** indicator).
5. Press Ⓐ to exit the setting screen.

Alarm Operation
The alarm sounds at the preset time for about 10 seconds. In the case of the snooze alarm, the alarm operation is performed a total of seven times, every five minutes, or until you turn the alarm off or change it to a one-time alarm.

Note
• Pressing any button stops the alarm tone operation.
• Performing any one of the following operations during a 5-minute interval between snooze alarms cancels the current snooze alarm operation.
   Displaying the Timekeeping Mode setting screen
   Displaying the Alarm 𝟭 setting screen

To test the alarm
In the Alarm Mode, hold down Ⓓ to sound the alarm.

To turn Alarms 𝟮 through 𝟱 on and off

Ⓐ Ⓑ
Ⓒ Ⓓ

One-time alarm on indicator

1. In the Alarm Mode, use Ⓓ to select a one-time alarm (alarm number 𝟮 through 𝟱).
2. Press Ⓐ to toggle the displayed alarm on and off.
   • Turning on a one-time alarm (𝟮 through 𝟱) displays the one-time alarm on indicator (ᴵ)))) on its screen.
   • If any alarm is on, the one-time alarm on indicator is shown on the display in all modes.

To select the operation of Alarm 𝟭
1. In the Alarm Mode, use Ⓓ to select Alarm 𝟭.
2. Press Ⓐ to cycle through the available settings in the sequence shown below.

Snooze alarm on indicator (ᴿⁿᶻ))))) and one-time alarm on indicator (ᴵ)))))

)))) → SNZ)))) →

One-time alarm on   Snooze alarm on   Alarm off
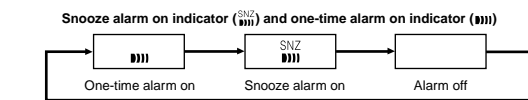
• The applicable alarm on indicator (ᴵ)))) or ᴿⁿᶻ))))) is displayed in all modes when an alarm is turned on.
• **SNZ** indicator flashes during the 5-minute intervals between alarms.
• Displaying the Alarm 𝟭 setting screen while the snooze alarm is turned on automatically turns off the snooze alarm (making Alarm 𝟭 a one-time alarm).

To turn the hourly time signal on and off

Ⓐ
:00 SIG Ⓓ

Hourly time signal on indicator

1. In the Alarm Mode, use Ⓓ to select the Hourly Time Signal.
2. Press Ⓐ to toggle it on and off.
   • Turning on the Hourly Time Signal causes the hourly time signal on indicator (♩) to be displayed in all modes.

— 4 —

Stopwatch

Minutes
Seconds
(A) (B)
(C) (D)
1/100 second
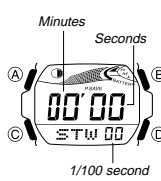
The stopwatch lets you measure elapsed time, split times, and two finishes.
- The display range of the stopwatch is 59 minutes, 59.99 seconds.
- The stopwatch continues to run, restarting from zero after it reaches its limit, until you stop it.
- The stopwatch measurement operation continues even if you exit the Stopwatch Mode.
- Exiting the Stopwatch Mode while a split time is frozen on the display clears the split time and returns to elapsed time measurement.
- All of the operations in this section are performed in the Stopwatch Mode, which you enter by pressing ©.

To measure times with the stopwatch

Elapsed Time

(D) → (D) → (D) → (D) → (A)
Start   Stop   Re-start   Stop   Clear

Split Time

(D) → (A) → (A) → (D) → (A)
Start   Split   Split release   Stop   Clear
           (**SPL** displayed)

Two Finishes

(D) → (A) → (D) → (A) → (A)
Start   Split   Stop   Split release   Clear
           First runner   Second runner Display time of
           finishes.   finishes.   second runner.
           Display time of
           first runner.

Backlight

Auto light switch on indicator

(A) (B)
(C) (D)

The backlight uses an EL (electro-luminescent) panel that causes the entire display to glow for easy reading in the dark. The watch's auto light switch automatically turns on the backlight when you angle the watch towards your face.
- The auto light switch must be turned on (indicated by the auto light switch on indicator) for it to operate.
- See "Backlight Precautions" for other important information about using the backlight.

To turn on the backlight manually
In any mode (except when a setting screen is on the display), press ⑧ to illuminate the display for about one second.
- The above operation turns on the backlight regardless of the current auto light switch setting.
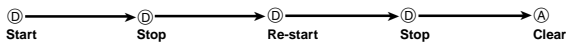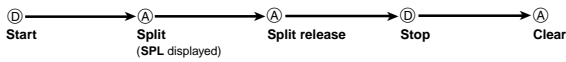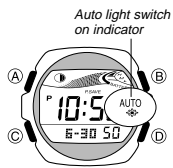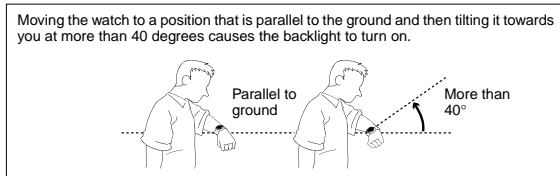
About the Auto Light Switch
Turning on the auto light switch causes the backlight to turn on for about one second, whenever you position your wrist as described below in any mode. Note that this watch features a "Full Auto EL Light," so the auto light switch operates only when available light is below a certain level. It does not turn on the backlight under bright light.

Moving the watch to a position that is parallel to the ground and then tilting it towards you at more than 40 degrees causes the backlight to turn on.

Parallel to ground   More than 40°

Warning!
- **Always make sure you are in a safe place whenever you are reading the display of the watch using the auto light switch. Be especially careful when running or engaged in any other activity that can result in accident or injury. Also take care that sudden illumination by the auto light switch does not startle or distract others around you.**
- **When you are wearing the watch, make sure that its auto light switch is turned off before riding on a bicycle or operating a motorcycle or any other motor vehicle. Sudden and unintended operation of the auto light switch can create a distraction, which can result in a traffic accident and serious personal injury.**

To turn the auto light switch on and off
In the Timekeeping Mode, hold down ⑩ for about two seconds to toggle the auto light switch on (AUTO displayed) and off (AUTO not displayed).
- The auto light switch on indicator (AUTO) is on the display in all modes while the auto light switch is turned on.

Power Supply

This watch is equipped with a solar cell and a special rechargeable battery (secondary battery) that is charged by the electrical power produced by the solar cell. The illustration shown below shows how you should position the watch for charging.

Example: Orient the watch so its face is pointing at a light source.
- The illustration shows how to position a watch with a resin band.
- Note that charging efficiency drops when any part of the solar cell is blocked by clothing, etc.
- You should try to keep the watch outside of your sleeve as much as possible. Even if the face of the watch is only partially blocked from light, charging will be significantly reduced.

Solar cell
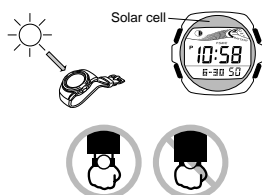
Important!
- Storing the watch for long periods in an area where there is no light or wearing it in such a way that it is blocked from exposure to light can cause rechargeable battery power to run down. Make sure that the watch is normally exposed to bright light whenever possible.
- This watch uses a special rechargeable battery to store power produced by the solar cell, so regular battery replacement is not required. However, after very long use, the rechargeable battery may lose its ability to achieve a full charge. If you experience problems getting the special rechargeable battery to fully charge, contact your dealer or CASIO distributor about having it replaced.
- Never try to remove or replace the watch's special battery yourself. Use of the wrong type of battery can damage the watch.
- The current time and all other settings return to their initial factory defaults whenever battery power drops to Level 4 and when you have the battery replaced.
- Turn on the watch's Power Saving function and keep it in an area normally exposed to bright light when storing it for long periods. This helps to keep the rechargeable battery from going dead.

Battery Power Indicator
The battery power indicator on the display shows you the current status of the rechargeable battery's power.

Battery power indicator

Level	Battery Power Indicator	Function Status
1		All functions enabled.
2		All functions enabled.
3	(Charge Soon Alert)	Beeper tone, backlight, display, and buttons are disabled.
4		All functions, including timekeeping, are disabled.

- The flashing **CHARGE** indicator at Level 3 tells you that battery power is very low, and that exposure to bright light for charging is required as soon as possible.
- At Level 4, all functions are disabled and settings return to their initial factory defaults. Functions are enabled once again after the rechargeable battery is charged, but you need to set the time and date, after the battery reaches Level 3 (indicated by flashing **CHARGE** indicator) from Level 4. You will not be able to set any of the other settings until the battery reaches Level 2 (no **CHARGE** indicator) after dropping to Level 4.
- Leaving the watch in direct sunlight or exposed to some other very strong light source can cause the battery power indicator to temporarily show a reading that is higher than the actual battery level. The correct battery power indicator should appear after a few minutes.
- If you use the backlight or any of the alarm functions a number of times during a short period, **RECOVER** appears on the display and the following operations become disabled until battery power recovers.
  Backlight
  Beeper tone
  After some time, battery power will recover and **RECOVER** will disappear, indicating that the above functions are enabled again.

Charging Precautions
Certain charging conditions can cause the watch to become very hot. Avoid leaving the watch in the areas described below whenever charging its rechargeable battery. Also note that allowing the watch to become very hot can cause its liquid crystal display to black out. The appearance of the LCD should become normal again when the watch returns to a lower temperature.

Warning!
Leaving the watch in bright light to charge its rechargeable battery can cause it to become quite hot. Take care when handling the watch to avoid burn injury. The watch can become particularly hot when exposed to the following conditions for long periods.
- On the dashboard of a car parked in direct sunlight
- Too close to an incandescent lamp
- Under direct sunlight

Charging Guide
After a full charge, timekeeping remains enabled for up to about 12 months.
- The following table shows the amount of time the watch needs to be exposed to light each day in order to generate enough power for normal daily operations.

Exposure Level (Brightness)	Approximate Exposure Time
Outdoor Sunlight (50,000 lux)	5 minutes
Sunlight Through a Window (10,000 lux)	24 minutes
Daylight Through a Window on a Cloudy Day (5,000 lux)	48 minutes
Indoor Fluorescent Lighting (500 lux)	8 hours

- Since these are the specs, we can include all the technical details.
  - Watch is not exposed to light
  - Display on 18 hours per day, sleep state 6 hours per day
  - 1 backlight operation (1.5 seconds) per day
  - 10 seconds of alarm operation per day
  - 1 countdown timer operation per day
- Stable operation is promoted by frequent charging.

Recovery Times
The table below shows the amount exposure that is required to take the battery from one level to the next.

Exposure Level (Brightness)	Approximate Exposure Time			
	Level 4	Level 3	Level 2	Level 1
Outdoor Sunlight (50,000 lux)	90 minutes		25 hours	7 hours
Sunlight Through a Window (10,000 lux)	6 hours		126 hours	35 hours
Daylight Through a Window on a Cloudy Day (5,000 lux)	11 hours		– – –	

- The above exposure time values are all for reference only. Actual required exposure times depend on lighting conditions.

Reference

This section contains more detailed and technical information about watch operation. It also contains important precautions and notes about the various features and functions of this watch.

Power Saving Function

When turned on, the Power Saving function automatically enters a sleep state whenever the watch is left in an area where it is dark for 60 to 70 minutes. The sleep state is indicated by a blank screen with **P.SAVE** flashing on it. In the sleep state, all functions are enabled, except for the display.
• Wearing the watch inside the sleeve of clothing can cause it to enter the sleep state.

• The watch will not enter the sleep state between 6:00 AM and 10:59 PM. If the watch is already in the sleep state when 6:00 AM arrives, however, it will remain in the sleep state.
• The watch will not enter the sleep state while it is in the Countdown Timer Mode or Stopwatch Mode.

To recover from the sleep state
Perform any one of the following operations.
• Move the watch to a well-lit area.
• Press any button.
• Angle the watch towards your face for reading

To turn Power Saving on and off

1. In the Timekeeping Mode, hold down Ⓐ until the seconds start to flash, which indicates the setting screen.
2. Press Ⓒ eight times until the Power Saving on/off screen appears.
3. Press Ⓓ to toggle Power Saving on (**ON**) and off (**OF**).
4. Press Ⓐ twice to exit the setting screen.
• The Power Saving on indicator (**P.SAVE**) is on the display in all modes while the Power Saving is turned on.

Moon Phase Indicator
The Moon phase indicator of this watch indicates the current phase of the Moon as shown below.

(part you cannot see)───── Moon phase (part you can see)

Moon Phase Indicator								
Moon Age	0, 1, 29	2 - 5	6 - 9	10 - 13	14 - 16	17 - 20	21 - 24	25 - 28
Moon Phase	New Moon		First Quarter (Waxing)		Full Moon		Last Quarter (Waning)	

• The Moon phase indicator shows the Moon as viewed at noon from a position in the Northern Hemisphere looking south. Note that at times the image shown by the Moon phase indicator may differ from that of the actual Moon in your area.
• The left-right orientation of the Moon phase is reversed when viewing from the Southern Hemisphere or from a point near the equator.

Moon Phases and Moon Age
The Moon goes through a regular 29.53-day cycle during which it appears to wax and wane due to how the Sun illuminates the Moon and the relative positioning of the Earth, Moon, and Sun. The greater the angular distance between the Moon and the Sun,* the more we see illuminated.
*The angle to the Moon in relation to the direction at which the Sun is visible from the Earth.*
The Moon age indicates the number of days from the New Moon to any particular phase. It is normally calculated using either noon or midnight as a reference point. This watch calculates the Moon age based on the angular distance of the Moon at noon, which can result in an error of ± 1 day. Because of this, the appearance of the Moon phase indicator may be different from that of the actual Moon.
The watch uses the following formula to calculate Moon age.
Moon Age (days) = 29.53 × (Moon angular distance / 360°)

Tide Graph
The wave on the watch's tide graph indicates the current tide. ▲ indicates that the tide is currently rising, while ▼ indicates a falling tide. Neither ▲ nor ▼ is on the display at high tide and low tide.

High tide
Falling ── ▼▲
Rising ──
Low tide
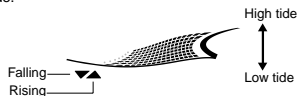
Tidal Movements
Tides are the periodic rise and fall of the water of oceans, seas, bays, and other bodies of water caused mainly by the gravitational interactions between the Earth, Moon and Sun. Tides rise and fall about every six hours. The tide graph of this watch indicates tidal movement based on the Moon's transit over a meridian and the lunitidal interval. The lunitidal interval differs according to your current location, so you must specify a lunitidal interval in order to obtain the correct tide graph readings.

Lunitidal Interval
Theoretically, high tide is at the Moon's transit over the meridian and low tide is about six hours later. Actual high tide occurs somewhat later, due to factors such as viscosity, friction, and underwater topography. Both the time differential between the Moon's transit over the meridian until high tide and the time differential between the Moon's transit over the meridian until low tide are known as the "lunitidal interval." When setting the lunitidal interval for this watch, use the time differential between the Moon's transit over the meridian until high tide.
See the "Site/Lunitidal Interval Data List" for lunitidal interval information around the world.

Auto Return Feature
• If you leave a screen with flashing digits on the display for two or three minutes without performing any operation, the watch automatically saves any settings you have made up to that point and exits the setting screen.
• If you leave the watch in the Moon/Tide Data Mode and Alarm Mode for two or three minutes without performing any operation, it automatically changes to the Timekeeping Mode.

Data and Setting Scrolling
The Ⓑ and Ⓓ buttons are used in various modes and setting screens to scroll through data on the display. In most cases, holding down these buttons during a scroll operation scrolls through the data at high speed.

Initial Screens
When you enter the Timekeeping, World Time, or Alarm Mode, the data you were viewing when you last exited the mode appears first.

Timekeeping
• Resetting the seconds to **00** while the current count is in the range of 30 to 59 causes the minutes to be increased by 1. In the range of 00 to 29, the seconds are reset to **00** without changing the minutes.
• With the 12-hour format, the **P** (PM) indicator appears on the display for times in the range of noon to 11:59 p.m. and no indicator appears for times in the range of midnight to 11:59 a.m.
• With the 24-hour format, times are displayed in the range of 0:00 to 23:59, without any indicator.
• The year can be set in the range of 2000 to 2039.
• The watch's built-in full automatic calendar makes allowances for different month lengths and leap years. Once you set the date, there should be no reason to change it except when battery power drops to Level 4.

World Time
• The seconds count of the World Time is synchronized with the seconds count of the Timekeeping Mode.
• The GMT differential is the time difference between the time zone where the city is located and Greenwich Mean Time.
• GMT differential is calculated by this watch based on Universal Time Coordinated (UTC) data.

Backlight Precautions
• The electro-luminescent panel that provides illumination loses power after very long use.
• The illumination provided by the backlight may be hard to see when viewed under direct sunlight.
• The watch may emit an audible sound whenever the display is illuminated. This is due to vibration of the EL panel used for illumination, and does not indicate malfunction.
• The backlight automatically turns off whenever an alarm sounds.
• Frequent use of the backlight runs down the battery.

Auto light switch precautions
• Wearing the watch on the inside of your wrist, as well as movement or vibration of your arm can cause the auto light switch to activate and illuminate the display. To avoid running down the battery, turn off the auto light switch whenever engaging in activities that might cause frequent illumination of the display.
• Note that wearing the watch under your sleeve while the auto light switch is turned on can cause frequent illumination of the face and can run down the battery.

• The backlight may not light if the face of the watch is more than 15 degrees above or below parallel. Make sure that the back of your hand is parallel to the ground.
• The backlight turns off in about one second, even if you keep the watch pointed towards your face.

• Static electricity or magnetic force can interfere with proper operation of the auto light switch. If the backlight does not light, try moving the watch back to the starting position (parallel with the ground) and then tilt it back toward you again. If this does not work, drop your arm all the way down so it hangs at your side, and then bring it back up again.
• Under certain conditions, the backlight may not light until about one second after you turn the face of the watch towards you. This does not necessarily indicate malfunction of the backlight.
• You may notice a very faint clicking sound coming from the watch when it is shaken back and forth. This sound is caused by mechanical operation of the auto light switch, and does not indicate a problem with the watch.

City Code Table

City Code	City	GMT Differential	Other major cities in same time zone
– – –		−11.0	
HNL	Honolulu	−10.0	Papeete
ANC	Anchorage	−09.0	Nome
LAX	Los Angeles	−08.0	San Francisco, Las Vegas, Vancouver, Seattle/Tacoma, Dawson City
DEN	Denver	−07.0	El Paso, Edmonton
CHI	Chicago	−06.0	Houston, Dallas/Fort Worth, New Orleans, Mexico City, Winnipeg
NYC	New York	−05.0	Montreal, Detroit, Miami, Boston, Panama City, Havana, Lima, Bogota
CCS	Caracas	−04.0	La Paz, Santiago, Port Of Spain
RIO	Rio De Janeiro	−03.0	Sao Paulo, Buenos Aires, Brasilia, Montevideo
– – –		−02.0	
– – –		−01.0	Praia
GMT		+00.0	Dublin, Lisbon, Casablanca, Dakar, Abidjan
LON	London		
PAR	Paris	+01.0	Milan, Rome, Madrid, Amsterdam, Algiers, Hamburg, Frankfurt, Vienna, Stockholm, Berlin
CAI	Cairo	+02.0	Helsinki, Istanbul, Beirut, Damascus, Cape Town, Athens
JRS	Jerusalem		
JED	Jeddah	+03.0	Kuwait, Riyadh, Aden, Addis Ababa, Nairobi, Moscow
THR	Tehran	+03.5	Shiraz
DXB	Dubai	+04.0	Abu Dhabi, Muscat
KBL	Kabul	+04.5	
KHI	Karachi	+05.0	Male
DEL	Delhi	+05.5	Mumbai, Kolkata
DAC	Dhaka	+06.0	Colombo
RGN	Yangon	+06.5	
BKK	Bangkok	+07.0	Jakarta, Phnom Penh, Hanoi, Vientiane
HKG	Hong Kong	+08.0	Singapore, Kuala Lumpur, Beijing, Taipei, Manila, Perth, Ulaanbaatar
TYO	Tokyo	+09.0	Seoul, Pyongyang
ADL	Adelaide	+09.5	Darwin
SYD	Sydney	+10.0	Melbourne, Guam, Rabaul
NOU	Noumea	+11.0	Port Vila
WLG	Wellington	+12.0	Christchurch, Nadi, Nauru Island

• Based on data as of June 2004.

Site/Lunitidal Interval Data List

Site	GMT Differential		Longitude	Lunitidal Interval
	Standard Time	**DST/ Summer Time**		
Anchorage	−9.0	−8.0	149°W	5:40
Bahamas	−5.0	−4.0	77°W	7:30
Baja, California	−7.0	−6.0	110°W	8:40
Bangkok	+7.0	+8.0	101°E	4:40
Boston	−5.0	−4.0	71°W	11:20
Buenos Aires	−3.0	−2.0	58°W	6:00
Casablanca	+0.0	+1.0	8°W	1:30
Christmas Island	+14.0	+15.0 (✶)	158°W	4:00
Dakar	+0.0	+1.0	17°W	7:40
Gold Coast	+10.0	+11.0	154°E	8:30
Great Barrier Reef, Cairns	+10.0	+11.0	146°E	9:40
Guam	+10.0	+11.0	145°E	7:40
Hamburg	+1.0	+2.0	10°E	4:50
Hong Kong	+8.0	+9.0	114°E	9:10
Honolulu	−10.0	−9.0	158°W	3:40
Jakarta	+7.0	+8.0	107°E	0:00
Jeddah	+3.0	+4.0	39°E	6:30
Karachi	+5.0	+6.0	67°E	10:10
Kona, Hawaii	−10.0	−9.0	156°W	4:00
Lima	−5.0	−4.0	77°W	5:20
Lisbon	+0.0	+1.0	9°W	2:00
London	+0.0	+1.0	0°E	1:10
Los Angeles	−8.0	−7.0	118°W	9:20
Maldives	+5.0	+6.0	74°E	0:10
Manila	+8.0	+9.0	121°E	10:30
Mauritius	+4.0	+5.0	57°E	0:50
Melbourne	+10.0	+11.0	145°E	2:10
Miami	−5.0	−4.0	80°W	7:30
Noumea	+11.0	+12.0	166°E	8:30
Pago Pago	−11.0	−10.0	171°W	6:40
Palau	+9.0	+10.0	135°E	7:30
Panama City	−5.0	−4.0	80°W	3:00
Papeete	−10.0	−9.0	150°W	0:10
Rio De Janeiro	−3.0	−2.0	43°W	3:10
Seattle	−8.0	−7.0	122°W	4:20
Shanghai	+8.0	+9.0	121°E	1:20
Singapore	+8.0	+9.0	104°E	10:20
Sydney	+10.0	+11.0	151°E	8:40
Tokyo	+9.0	+10.0	140°E	5:20
Vancouver	−8.0	−7.0	123°W	5:10
Wellington	+12.0	+13.0	175°E	4:50

✶This watch does not support a GMT differential of +15.0.
•Based on data as of 2003.

3-1. LCD DIAGRAM
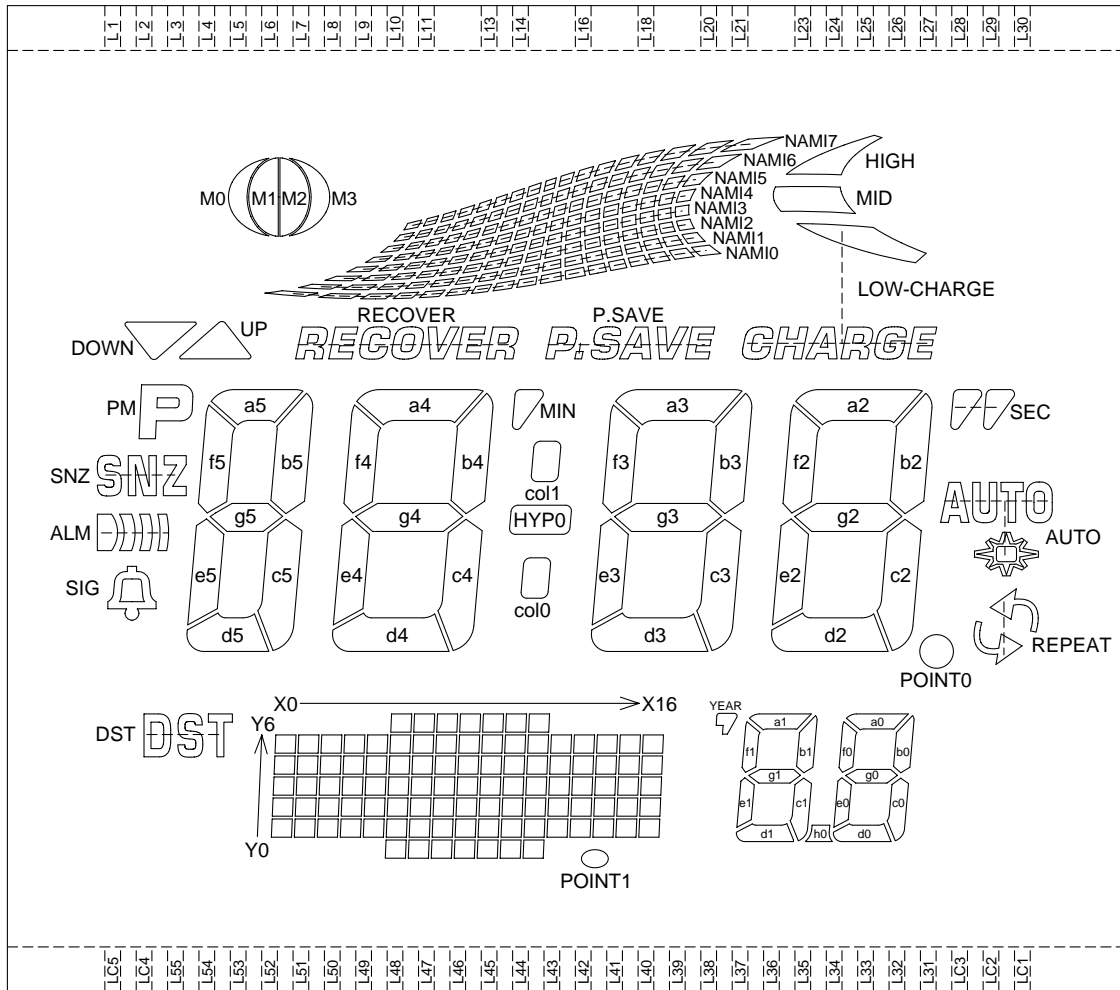
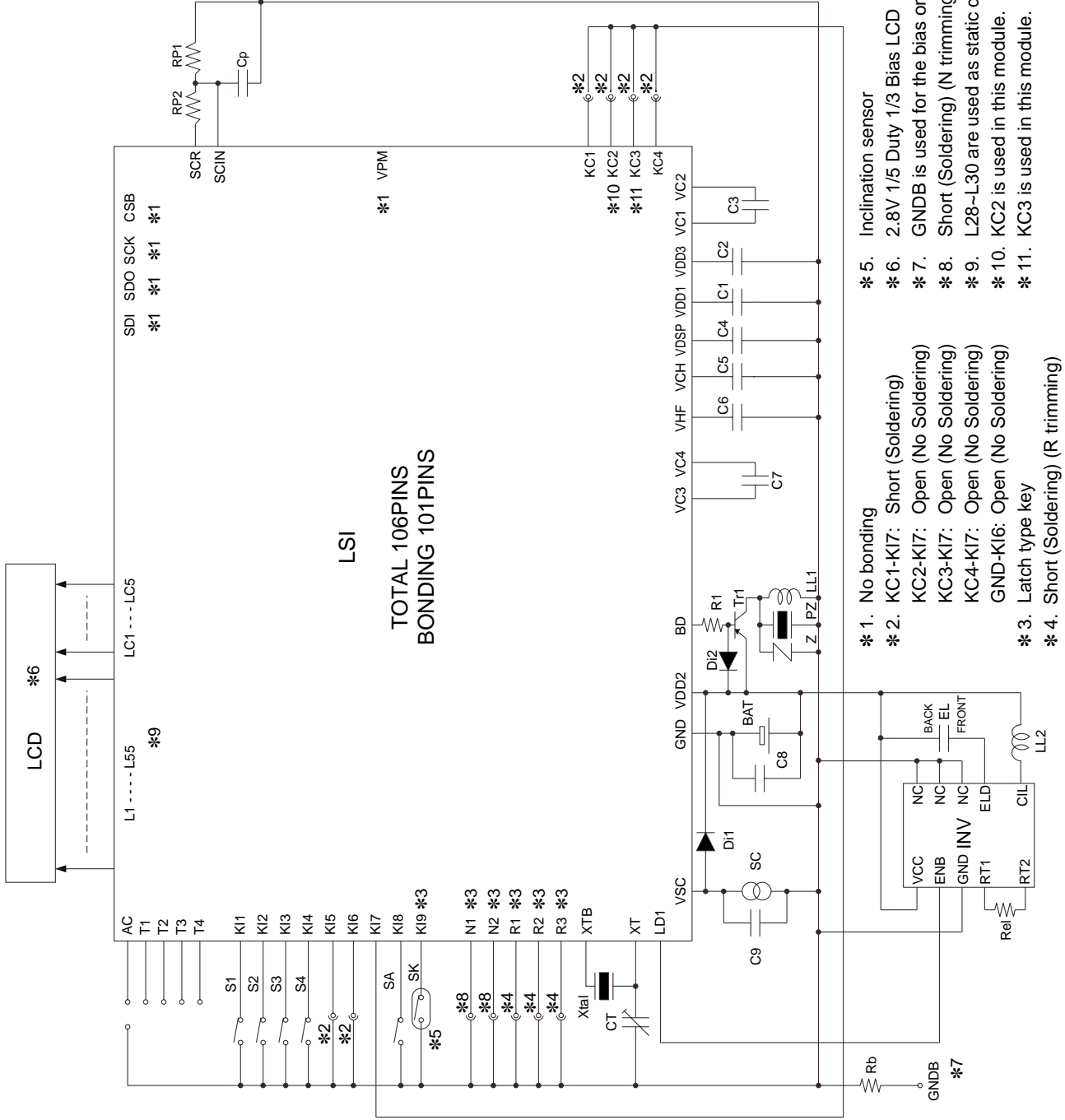| SEG \ COM	LC1	LC2	LC3	LC4	LC5
L 1				X5Y5	X5Y6
L 2	DST				
L 3	SIG			M0	
L 4	ALM			M1	
L 5	SNZ	PM	DOWN	M2	
L 6			UP	M3	
L 7	e5	f5		X6Y5	X6Y6
L 8	d5	g5	a5	X7Y5	X7Y6
L 9	c5	b5		X8Y5	X8Y6
L10	e4	f4	RECOVER	X9Y5	X9Y6
L11			NAMI0		
L12					
L13			NAMI1		
L14			NAMI2		
L15					
L16			NAMI3		
L17					
L18			NAMI4		
L19					
L20			NAMI5		
L21			NAMI6		
L22					
L23			NAMI7		
L24	d4	g4	a4	X10Y5	X10Y6
L25	c4	b4		X11Y5	X11Y6
L26	HYP0	col1	MIN	X12Y5	col0
L27			MID	HIGH	
L31		REPEAT	AUTO	c0	b0

SEG \ COM	LC1	LC2	LC3	LC4	LC5
L32	a0	POINT0	SEC	d0	g0
L33	f0	c2	b2	h0	e0
L34	d2	g2	a2	c1	b1
L35	a1	e2	f2	d1	g1
L36	YEAR	c3	b3	e1	f1
L37	d3	g3	a3		
L38	e3	f3			
L39	X16Y3	X16Y2	X16Y1	X16Y5	X16Y4
L40	X15Y3	X15Y2	X15Y1	X15Y5	X15Y4
L41	X14Y3	X14Y2	X14Y1	X14Y5	X14Y4
L42	X13Y3	X13Y2	X13Y1	X13Y5	X13Y4
L43	X12Y3	X12Y2	X12Y1	POINT1	X12Y4
L44	X11Y3	X11Y2	X11Y1	X11Y0	X11Y4
L45	X10Y3	X10Y2	X10Y1	X10Y0	X10Y4
L46	X9Y3	X9Y2	X9Y1	X9Y0	X9Y4
L47	X8Y3	X8Y2	X8Y1	X8Y0	X8Y4
L48	X7Y3	X7Y2	X7Y1	X7Y0	X7Y4
L49	X6Y3	X6Y2	X6Y1	X6Y0	X6Y4
L50	X5Y3	X5Y2	X5Y1	X5Y0	X5Y4
L51	X4Y3	X4Y2	X4Y1	X4Y5	X4Y4
L52	X3Y3	X3Y2	X3Y1	X3Y5	X3Y4
L53	X2Y3	X2Y2	X2Y1	X2Y5	X2Y4
L54	X1Y3	X1Y2	X1Y1	X1Y5	X1Y4
L55	X0Y3	X0Y2	X0Y1	X0Y5	X0Y4

SEG \ COM	L30
L28	P.SAVE
L29	LOW-CHARGE

LSI

TOTAL 106PINS
BONDING 101PINS

LCD *6

*1. No bonding
*2. KC1-KI7: Short (Soldering)
    KC2-KI7: Open (No Soldering)
    KC3-KI7: Open (No Soldering)
    KC4-KI7: Open (No Soldering)
    GND-KI6: Open (No Soldering)
*3. Latch type key
*4. Short (Soldering) (R trimming)

*5. Inclination sensor
*6. 2.8V 1/5 Duty 1/3 Bias LCD
*7. GNDB is used for the bias on the back of the tip.
*8. Short (Soldering) (N trimming)
*9. L28~L30 are used as static drive terminals.
*10. KC2 is used in this module.
*11. KC3 is used in this module.

3-3. CHECKING TERMINALS AND COMPONENTS

SENSOR/TILT
(71055275)

11. PCB ASS'Y
(76408729)

VDD2

N1 GND
N2 GND
Short pad for N trimming

R1 GND
R2 GND
ELD
R3 GND
Short pad for R trimming

KC1 KI7
KC2 KI7
KC3 KI7
KC4 KI7
Short pad for switching modules

GND KI5
GND KI6

GND   VSC

Short pad for switching modules

CUSHION 6
(72110064)

OSCILLATOR/CRYSTAL
(71106323)

L

VDD2   BDB   BD
VDD2   BDB
KI9   GND
L   GND

SCIN

XT

XTB

GND

L

CAPACITOR/TRIMMER
(10010950)

GND
SCIN   GND

GND
SCIN   SCR

GND

KI4

RT1   RT2

XT

KI2

AC   VDD1   GND

LD1

GND

VDD3   GND

RT2
RT1
GND
VDD2

VHF   GND

VDSP

VC1

VDSP   GND
VC3   VC1

KI3

KI9

VC4   VC2

CIL
ELD
GND
GND
GND

ELD

KI1   CIL

GNDB

4681

VCH

VCH   GND

VSC
GND   VSC

VDD2

GND

VDD2   VSC
VDD2

VDD2

GND

VDD2

KI8

4. EXPLODED VIEW: MODULE QW-2960

17 (10106533)

9 (10189345)

14 (10106530)

5a (10106538)
5b (10189346)
5c (10106539)

7 (10106531)

16 (10106532)

11 (76408729)

PCB ass'y

3 (72311913)

15 (72019249)

13 (10099862)

6 (10083364)

8 (10065664)

1 (10065657)

Battery Storage (CTL1616)
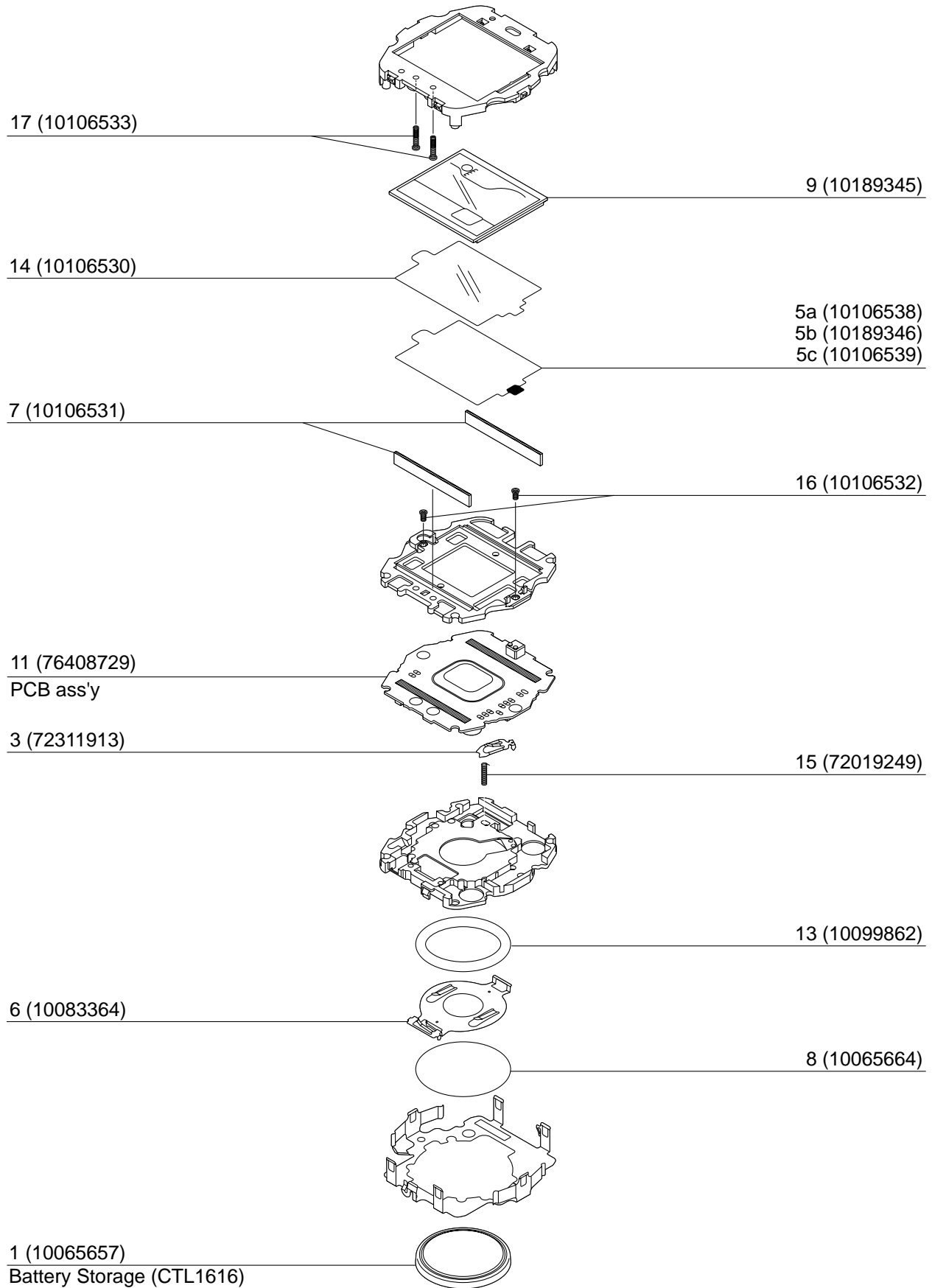
5. PARTS LIST: MODULE QW-2960

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 -- Very Important
   B Rank -- Important
   C Rank -- Less 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".

Item	Code No.	Parts Name	Specification	Applicable	Q	R
	76408734	MODULE/WITHOUT MOVEMENT	QW-2960AT-01TK	BGX-260-1/5	1	A
	76408735	MODULE/WITHOUT MOVEMENT	QW-2960AT-02TK	BGX-260-2A/2B	1	A
	76408736	MODULE/WITHOUT MOVEMENT	QW-2960AT-03TK	BGX-260-4	1	A
1	10065657	BATTERY/STORAGE	CTL1616	QW-2960AT Common	1	B
2	10010950	CAPACITOR/TRIMMER	CTZ2E-30C-W2-P	QW-2960AT Common	1	B
3	72311913	CONTACT/BATTERY(-) 1828	Q359948B-2	QW-2960AT Common	1	C
4	72110064	CUSHION 6	Q4914A-1	QW-2960AT Common	1	C
5a	10106538	EL	YEL-2611-A-00	QW-2960AT-01TK	1	A
5b	10189346	EL	YEL-2611-A-20	QW-2960AT-02TK	1	A
5c	10106539	EL	YEL-2611-A-60	QW-2960AT-03TK	1	A
6	10083364	HOLDER/BATTERY 2154	Q254197A-2	QW-2960AT Common	1	C
7	10106531	INTERCONNECTOR/ 2611	Q470668-1	QW-2960AT Common	2	C
8	10065664	LABEL/ 2368	Q468543A-1	QW-2960AT Common	1	C
9	10189345	LCD	K2960-01THP	QW-2960AT Common	1	A
10	71106323	OSCILLATOR/CRYSTAL	DT-26S11	QW-2960AT Common	1	B
11	76408729	PCB ASS'Y	Q256046*4TK	QW-2960AT Common	1	A
12	71055275	SENSOR/TILT	TS-2418-P	QW-2960AT Common	1	B
13	10099862	SHEET/INSULATION 2620-1	Q470524-1	QW-2960AT Common	1	C
14	10106530	SPACER/ 2611-2	Q470667-1	QW-2960AT Common	1	C
15	72019249	SPRING/COIL 675-3	Q413389A-1	QW-2960AT Common	1	B
16	10106532	SPRING/COIL 2611-1	Q470669A-1	QW-2960AT Common	2	B
17	10106533	SPRING/COIL 2611-2	Q470687-1	QW-2960AT Common	2	B

For the prices and minimum order/supply quantities of the above parts, refer to the Parts Price List P.P.L.-620.

Notes: Q - Used quantity
         R - Rank

6. PRECAUTIONS FOR REPAIR: MODULE QW-2960

6-1. AC (ALL CLEAR) AND REMOVING OF MODULE

1. Perform AC (ALL CLEAR) when inserting a new battery, or else the memories and/ or counters may give erratic displays.
   Touch the AC contact and the positive (+) side of the battery or main plate with the metallic tweezers.
   The contact should be made for about two seconds.
2. On removing of the module from the case, please insert the precision screw driver between the module and the case pointed by arrows.

Metallic tweezers
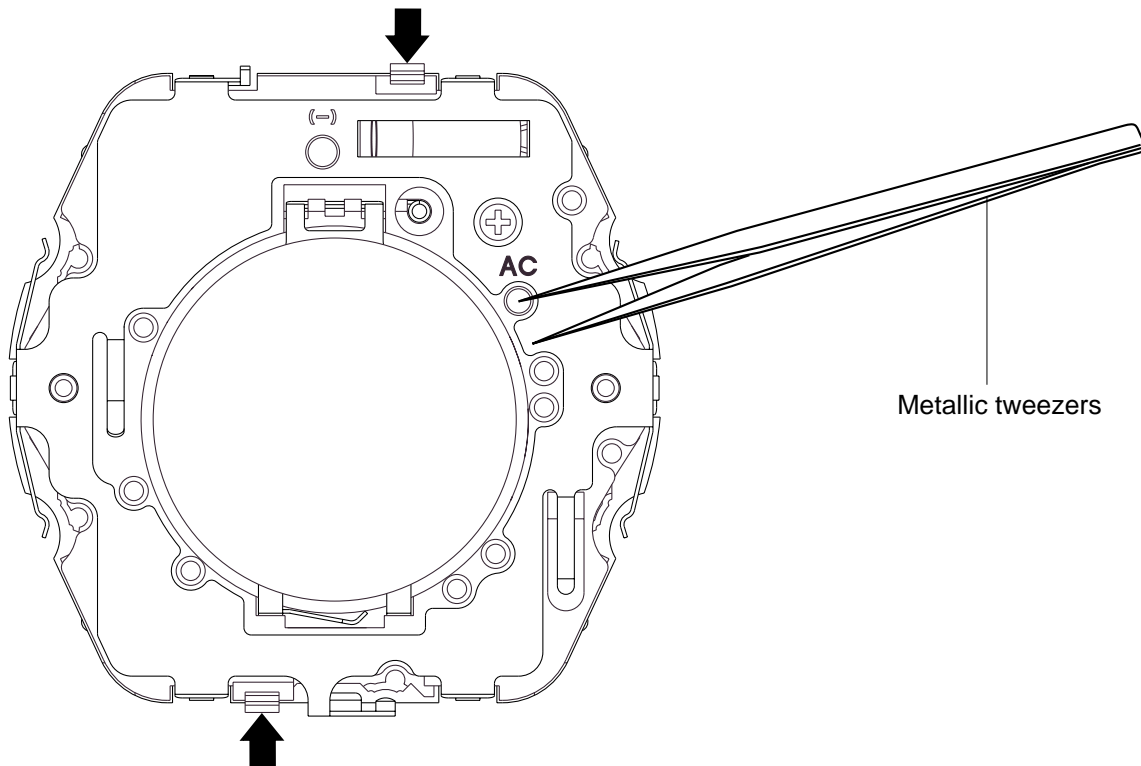
6-2. ACCURACY CHECKING

Check the accuracy of the module with the quartz timer after switching the module to "ACCURACY CHECKING MODE".

The operations are shown below:

A) SWITCHING TO "ACCURACY CHECKING MODE"
   While pressing the Ⓓ button, press Ⓐ and Ⓒ buttons at the normal timekeeping mode.
   Then all the segments are displayed and the LCD drive signals are changed to the static drive signal of "32 Hz" so that you can check the accuracy with the quartz timer.

B) CANCELLATION OF THE "ACCURACY CHECKING MODE"
   Press any button, except for Ⓓ button.
   Then the display is returned to its original state.

   NOTE: The "ACCURACY CHECKING MODE" will automatically return to the regular mode in 1 ~ 2 hour(s) without any operation.
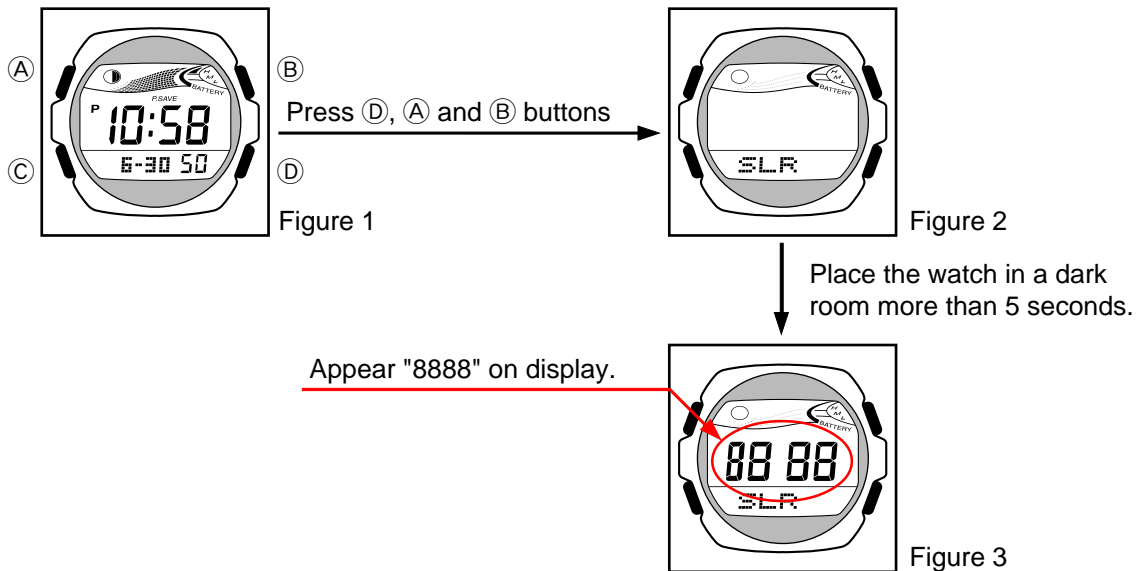

QW-2960

6-3. SOLAR CELL-PCB ASS'Y CONTACT CHECKING

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

1. To enter TEST mode.

    1) While pressing Ⓓ button, press Ⓐ and Ⓑ buttons at the normal timekeeping mode.

2. Check a Solar cell and PCB ass'y contact in the following order.

    1) Display side up and place the watch on the desk.

    2) Check the display indicates as figure 2.

    3) Display side down and place the watch on the desk more than two seconds.
        Or go to a dark room and place the watch more than 5 seconds.

    4) Check the display indicates as figure 3.
        If "8888" is not appeared on the display, disassemble again the module and check the contact spring between the Solar cell and PCB.

Press Ⓓ, Ⓐ and Ⓑ buttons

Figure 1

Figure 2

Place the watch in a dark room more than 5 seconds.

Appear "8888" on display.

Figure 3

3. To exit from TEST mode

    Press any button.

6-4. HOW TO CHECK TILT SENSOR

    1) Press Ⓐ, Ⓑ and Ⓒ buttons at the normal timekeeping mode.

    2) Check the display indicates as figure 4.

    3) Tilt the watch towards you more than 40 degrees.
    4) Check the display indicates as figure 5.

Appear "TLT" on display.

Tilt the watch towards you more than 40°

Appear "8888" on display.

More than 40°

Figure 4

Figure 5
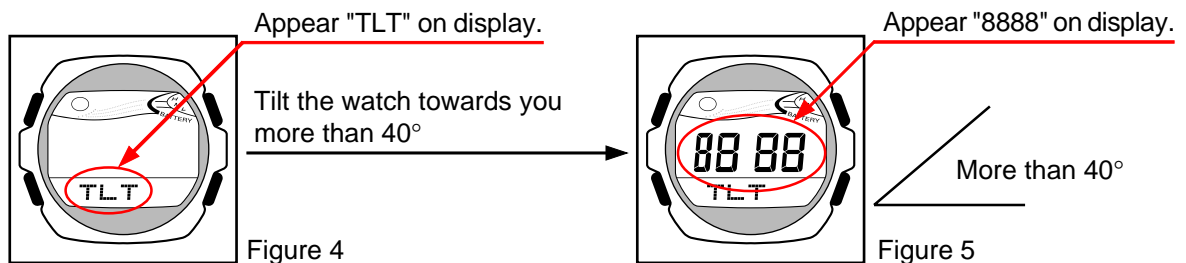
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