Operation Guide 2629

CASIO

Power Saving

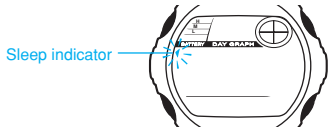
The Power Saving feature of the watch is turned on at the factory.

- Power Saving causes the watch to automatically enter a sleep state to save power whenever the watch is left in the dark.
- Note that the watch may also enter the sleep state if the watch is blocked from light by your sleeve.

■ How the sleep state works

- **Display sleep state**
  The display sleep state is triggered whenever the watch is left in the dark for about one hour between the hours of 10 p.m. and 6 a.m.
  - The watch does not enter the sleep state if it is in the Stopwatch Mode.
  - The display goes blank, except for a sleep indicator flashing on it.

  Alarms and the hourly time signal continue to operate normally while the watch is in the display sleep state.



- **Function sleep state**
  The function sleep state is triggered whenever the watch is left in the dark for six or seven days.
  - The sleep mark stops flashing and remains on the display.
  - Alarms, the hourly time signal, and auto signal reception are also disabled while the watch is in the function sleep state.
  - Digital timekeeping functions continue to operate normally in the function sleep state.

■ To recover from the sleep mode

Place the watch in an area that is well-lit, press any button, or angle the watch toward your face to illuminate the display using the Auto Light.

- It can take up to two seconds before the display re-appears after you place the watch in a well-lit area.

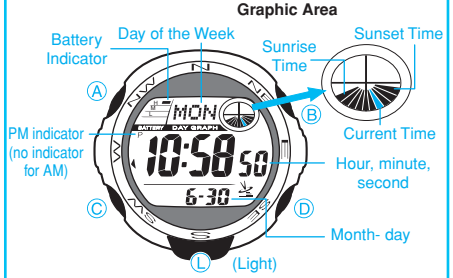
■ Turning Power Saving On or Off

Use the procedure under “Setting the Home Time and Date Manually” to turn Power Saving on or off.

Leaving the watch in a drawer or anywhere else it is dark can cause Power Saving to trigger in order to conserve battery power.

Modes and Display Screens

Timekeeping Mode



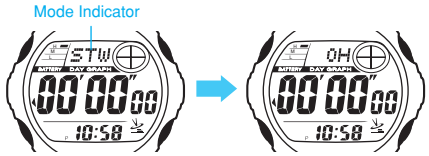
Time Stamp (Time Memo)

Holding down the Ⓑ button for about one second in the Timekeeping Mode creates a record containing the current date (month and day) and time (hour, minute, second) in memory. Storage of the record is indicated by the watch beeping.

- The display shows the contents of the record for about two seconds, after which the normal Timekeeping Mode display reappears.
- See “Viewing Time Stamp (Time Memo) Data” for information about recalling Time Stamp records.

Sunrise/Sunset Mode

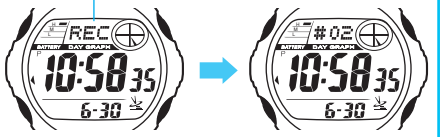
Stopwatch Mode



- The watch will automatically return to the Timekeeping Mode if you do not perform any operation for two or three minutes in the Sunrise/Sunset Mode, Direction Mode, Recall Mode, or Alarm Mode.
- Entering the Alarm Mode displays an alarm number, “SNZ” (snooze alarm), or “SIG” (hourly time signal).

Direction Mode

Recall Mode



World Time Mode

Alarm Mode

Power Supply

The power supply of this watch uses a solar cell to generate electrical power, which is stored by a rechargeable battery. Using or storing the watch where it is not regularly exposed to light, or allowing it to be blocked from light by your sleeve as you are wearing it can cause the power of the rechargeable battery to run down. To ensure stable operation, be sure to allow the watch to be exposed to light as much as possible when you are wearing or storing it.

Note that all data in memory and all settings are cleared whenever you allow the level of the rechargeable battery to drop to Level 4.

■ Flashing Recovery Indicator

If you use the light or alarms a number of times during a short period, a Recovery indicator flashes on the display and the following operations become disabled as battery power recovers.

- Display illumination
- Alarm and hourly time signal
- Time calibration signal reception

Normal operation will return after the battery recovers.

■ Battery Indicator

Level 1	H	All functions enabled.
Level 2	M	All functions enabled.
Level 3	L CHARGE	Display, display illumination, alarms, hourly time signal, and signal reception disabled.
Level 4	(No display)	All functions, including digital timekeeping, disabled.

- Exposing the watch to direct sunlight or other strong light may cause the battery level indicator to momentarily indicate a level that is higher than the actual battery level. Because of this, you should wait for a short while after charging to check the battery level indicator.
- Even if the battery level drops all the way to Level 4, you will still be able to recharge the battery and use the watch again.
- When recharging from Level 4, set the current time and date after the battery level recharges to Level 3. At this time you should continue to expose the watch to light so it can charge up the Level 2 or Level 1.

■ Start charging at Level 3!

Battery Level 3 indicates that remaining battery power is very low. Be sure to expose the watch to light for recharging as soon as possible after the Level 3 indicator starts to flash.

■ Charging Precautions

Avoid charging the watch in the following locations, and anywhere else where the watch may become very hot.

- On the dashboard of an automobile parked in the sun
- Very close to an incandescent light source or other sources of heat
- In a location exposed to direct sunlight for long periods

Note that the display panel may become black under very high temperatures. This is temporary, and the display will appear normal again at lower temperatures.

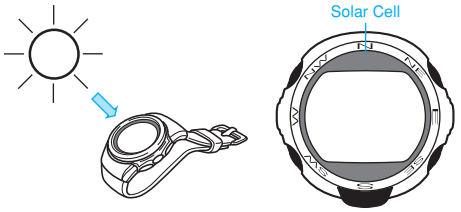
⚠ Depending on the light source you are using, the case of the watch may become quite hot during charging. Take care to guard against burn injury after charging.

■ To charge the battery

Point the solar panel (face) of the watch at a light source.

- Remember that even a partial blockage of the solar cell reduces charging efficiency.

Example: Positioning the watch



- The illustration shows the resin band model.

■ Charging Guide

Starting from a full charge, it should take approximately six months of operation without further charging under the conditions described below before battery drops to Level 3.

Daily Use (All time values are approximate.)
- Display Illumination: 1.5 seconds
- Alarms: 10 seconds
- Signal reception: 5 times
- Digital display: 18 hour

Making sure the watch is regularly exposed to light ensures stable operation.

Required Daily Charging Time

- The following is the daily amount of charging required each day to support the operations under “Daily Use”

Exposure Level (Brightness)	Approximate Charging 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

- **Charge Times Required to Advance to a Higher Level**

Exposure Level (Brightness)	Approximate Charging Time Level 4 ➡ Level 3 ➡ Level 2 ➡ Level 1		
Outdoor Sunlight (50,000 lux)	1 hour	15 hours	4 hours
Sunlight Through a Window (10,000 lux)	4 hours	73 hours	20 hours
Daylight Through a Window on a Cloudy Day (5,000 lux)	6 hours	148 hours	41 hours
Indoor Fluorescent Lighting (500 lux)	66 hours	– – –	– – –

- Note that the above charging times are for reference only. Actual charging time depends on a variety of environmental factors.

Display Illumination

An EL (electro luminescent) panel is used to illuminate the display for easy reading in the dark. An auto light switch automatically illuminates the display when you angle the watch towards your face for reading.

■ To illuminate the display manually

Pressing the Ⓛ button in any mode illuminates the digital display for about 1.5 seconds.

- Pressing the Ⓛ button illuminates the display regardless of whether the auto light switch is on or off.

You may hear a faint rattling sound when you move the watch around. This sound is caused by the movement of a metal bulb that controls operation of the auto light switch, and does not indicate malfunction.

Illuminating the Display with the Auto Light Switch

The full auto light switch automatically illuminates the display for 1.5 seconds whenever you angle the watch towards your face for reading, but only when it is dark.

- The full auto light switch does not illuminate the display when surrounding light is bright.

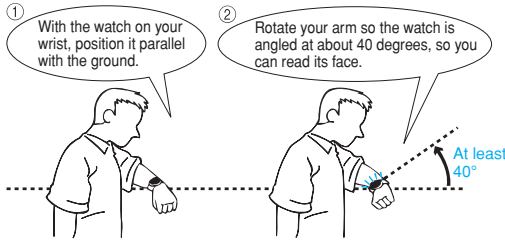
  The light is very convenient when reading the current time and other data in the dark.

  The auto light switch illuminates the display in all modes.

In the Timekeeping Mode, hold down the Ⓛ button for about two seconds to toggle the auto light switch on (AUTO indicator displayed) and off (no indicator displayed).

- In any mode, hold down the Ⓛ button for about two seconds to toggle the auto light switch on (AUTO indicator displayed) and off (no indicator displayed).

■ To illuminate the display



- You should be wearing the watch **on the outside of your wrist** when using the auto light switch.
- Make sure that the left (9 o’clock) and right (3 o’clock) sides of the watch are within ±15 degrees of being parallel with the ground. The auto light switch may not operate properly if the angle is greater

Display Illumination Precautions

- The light may be difficult to see if you turn it on under bright sunlight.
- If you press the Ⓛ button or if an alarm operation starts while the display is illuminated, illumination will turn off.
- You may notice a slight sound from the watch while the display is illuminated. This is the sound of EL panel vibration, and does not indicate malfunction.

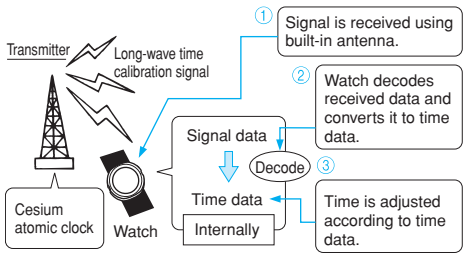
Auto Light Precautions

- Frequent use of the auto light can run down the battery.
- The display may not illuminate immediately when you angle the watch towards your face. This does not indicate malfunction.
- The display remains lit for about 1.5 seconds only, even if you leave the watch angled towards your face.
- The display may illuminate unintentionally when you wear the watch on the inside of your wrist, when you shake your arm, or when you raise your arm. **Be sure to turn off the auto light switch whenever you do not need display illumination.**
- Keep the auto light switch turned off whenever you are wearing the watch on the inside of your wrist.
- Electro-static charge and magnetism can interfere with auto light operation and even make operation impossible. If this happens, lower your arm to the starting position and then raise it again. If you still have trouble with display illumination, try lowering your arm down to your side and then raise it to your face for reading.

How a Radio-controlled Watch Works

What is a radio-controlled watch?

Your radio-controlled watch is designed to receive a time calibration signal that contains standard time data and adjust its current time setting accordingly.



After the watch receives the Japan Standard Time signal, it performs internal calculations to determine the current time. Because of this, there may be an error of up to one second in the displayed time.

Calibration Signal

- The Japanese calibration signal (Call Sign: JJY) is maintained by the independent Japan Ministry of Posts and Telecommunications Communication Research Laboratory (CRL). It is a long wave signal transmitted 24 hours a day from the Mt. Otakadoya transmitter (40kHz) located in Tamura-gun, Fukushima Prefecture, and from the Mt. Hagane transmitter (60kHz) located on the border between Saga Prefecture and Fukuoka Prefecture.
- The U.S. calibration signal (Call Sign: WWVB) is transmitted by the National Institute of Standards and technology from Fort Collins, Colorado.

Though the calibration signal is normally transmitted 24 hours a day, transmission may be interrupted occasionally due to maintenance, lightening, etc.

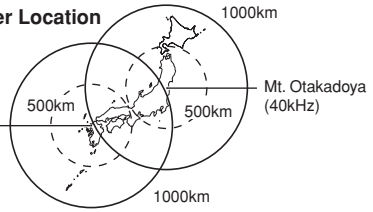
Reception Range

This watch is designed to receive the standard time calibration signal of Japan (JJY) or of the United States (WWVB). The signal that is received depends on the current Home City setting.

- **For information about selecting a Home City, see "Setting the Time and Date Manually".**

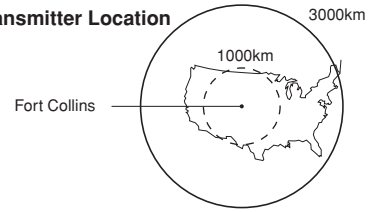
Home City	Transmitter
TYO	Either the Mt. Otakadoya signal (40kHz) or the Mt.Hagane signal (60kHz)
LAX, DEN, CHI, NYC	Fort Collins, Colorado signal

Transmitter Location



- Under optimum conditions, the calibration signal should be receivable up to 1,000 kilometers from the transmitter.
- Note that the wave is relatively weak at distances greater than 500km, so reception may be poor at long distances.

Transmitter Location



- Under optimum conditions, the calibration signal should be receivable up to 3,000 kilometers from the transmitter.
- Note that the wave is relatively weak at distances greater than 1,000km, so reception may be poor at long distances.

- Geographic contours, nearby buildings, the season, the time of day, can even make reception impossible even when you are within range of the transmitter.
- Best reception is possible late at night.

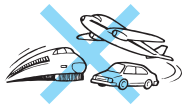
Location

Reception is difficult and may even be impossible in the locations described below. Avoid such locations when performing signal reception.

- You should think of your watch operating like a radio or TV when it is receiving the calibration signal.


Among or near buildings


Near high-voltage lines


Inside a vehicle (automobile, train, plane, etc.)


Next to a household appliance or office equipment (TV, speaker, fax, PC, mobile phone, etc.)


In a location where there is radio interference (construction site, airport, etc.)


Near mountains

If you are experiencing problems with reception, move away from the types of locations described above to a location with better reception, and try again.

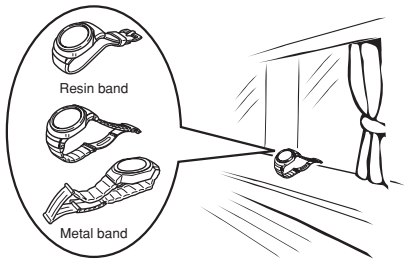
Receiving the Calibration Signal

There are two methods you can use to receive the time calibration signal.

- Auto receive (Reception is performed automatically at midnight, 1:00, 2:00, 3:00, and 4:00 each morning.)
- Manual receive (You initiate reception using a button operation.)
- If reception is not successful for any of the normal auto receive operations shown above, auto receive is performed one more time at 5:00 a.m.
- The watch is set up for auto reception at the factory, so all you need to do is to place it in a location that allows good reception each night.

■ Setting Up to Make Reception Easier

Remove the watch from your wrist and place it somewhere so its top (12 o'clock side, where the antenna is located) is facing approximately in the direction of the signal transmitter. Keep it away from metal objects.



- Orienting the watch so it is sideways to the transmitter makes it more difficult to receive the signal.
- Do not move the watch while it is receiving the calibration signal.

■ Time Required for Reception

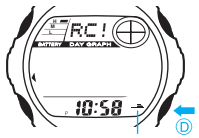
Signal reception takes anywhere from about two to six minutes.

- Note that when "**AUTO**" is specified as the frequency selection mode, signal reception can take up to 12 minutes.
- See "To specify the transmitter mode" for more information about transmitter mode.

■ To trigger reception manually

Hold down the Ⓓ button for about two seconds.

- The watch beeps and reception starts. The "📡"icon flashes on the display while signal reception is in progress.



Receive indicator

■ To interrupt reception

Press the Ⓓ button.

- All other buttons besides Ⓓ are disabled during signal reception.

When reception is successful

The watch terminates reception and adjusts the current time. Next it beeps and then displays the date and time the adjustment was performed.

- The "📡" icon on the display also indicates successful signal reception. The "📡" icon is cleared from the display each day at 3:00 a.m.

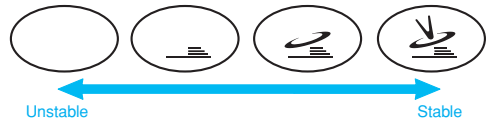
When reception fails

The watch does not adjust its current time setting, and displays "ERR" instead.

- The display will return to the normal timekeeping screen automatically if you do not perform any operation for about one or two minutes.

■ Receive indicator

The receive indicator cycles from "Unstable" through "Stable" as shown below while reception is in progress. How far it cycles depends on the signal strength. Keep the watch in a location where reception is stable while reception is in progress.



- Even under optimum reception conditions, it can take about 10 seconds for reception to stabilize.

- Use the receive icon to check reception status and to determine the best location for signal reception.
- Note that weather, the time of day, surroundings, and other factors can all affect reception.

CASIO

■ To view the last reception date and time

In the Timekeeping Mode, press the Ⓓ button.

- This displays the date and time that signal reception was complete and the current time and date were adjusted.
- To return to the timekeeping screen, press the Ⓓ button again.
- The display will return to the normal timekeeping screen automatically if you do not perform any operation for about one or two minutes.

Important!

- The calibration signals received by this watch include two data groups: an hour-minute-second group and a year-month-day group.
- The "📡" icon is displayed only when both the hour-minute-second group and year-month-day group are received. It will not remain on the display if only the hour-minute-second group is received.

"📡" not displayed

Hour-minute-second group and year-month-day group received
"📡" displayed
Hour-minute-second group only received
"📡" not displayed

- If only hour, minute, and second data (no date data) is received, the last reception date shows the date that the receive operation was performed (as kept in the Timekeeping Mode).

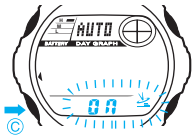
■ To turn auto reception on and off

1. **In the Timekeeping Mode hold down the Ⓐ button for about two seconds until the current transmitter selection mode setting flashes on the display.**

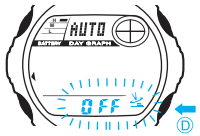
- This is the setting screen.

2. **Press the Ⓒ button three times.**

- This displays the auto reception setting screen with "ON" or "OFF" flashing.



3. **Press the Ⓓ button to toggle auto reception on or off.**



4. **When the setting you want is displayed, press the Ⓐ button twice to exit the setting screen.**

- This exits the setting screen.
- The display also will exit the setting screen automatically if you do not perform any operation for about two or three minutes.

■ To specify the transmitter mode

When Tokyo (**TYO**) is selected as the Home City, you can select either of two different transmitters for reception.

- For information about selecting a Home City, see "Setting the Time and Date Manually".

1. **In the Timekeeping Mode hold down the Ⓐ button for about two seconds until the current transmitter mode setting flashes on the display.**

- This is the setting screen.

2. **Use the Ⓓ button to cycle through the available transmitter mode settings described below.**

3. **When the setting you want is displayed, press the Ⓐ button twice to exit the setting screen.**

- This exits the setting screen.
- The display also will exit the setting screen automatically if you do not perform any operation for about two or three minutes.

- **AUTO**
  With this setting, the watch automatically selects either the Mt. Otakadoya signal (40kHz) or the Mt. Hagane signal (60kHz), whichever is strongest.
  - The transmitter that was last received successfully is given priority for the next receive operation.
- **40**
  With this setting, the watch always receives the Nt. Otakadoya signal (40kHz).
- **60**
  With this setting, the watch always receives the Mt. Hagane signal (60kHz).

Calibration Signal Reception Precautions

- Auto reception can be performed while the watch is in the Timekeeping Mode or World Time Mode only.
- Operating any button while auto reception is in progress will cause the watch to beep and then exit the receive operation.
- Make sure you are within the range of the calibration signal transmitter before performing the reception operation. Remember that geographic contours, nearby buildings, the season, the time of day, can even make reception impossible even when you are within range of the transmitter.
- Proper reception may be impossible if there is something blocking the signal. If reception is unsuccessful, try again.
- This watch is designed to adjust its current time setting in accordance with the calibration signal transmitted in Japan and the United States only. Note that you will need to make your own adjustments when using this watch outside of Japan or the United States, or in any area that is outside the range of one of the receivable time calibration signal transmitters.
- When the watch is unable to adjust its time signal using the calibration signal for some reason, timekeeping accuracy is within ±15 seconds per month.
- Strong electrostatic charge can cause timekeeping error.
- Signal reception is cancelled if an alarm starts to sound while it is being performed.
- The watch's calendar shows dates up to the year 2099. Attempting a receive operation after that causes an error.

Troubleshooting

Cannot perform manual reception.

Cause: • Manual receive can be performed in the Timekeeping Mode only. The Home City is set to a city other than **TYO** (Tokyo), **NYC** (New York), **CHI** (Chicago), **DEN** (Denver), or **LAX** (Los Angeles).

Corrective Measures: • Perform manual receive in the Timekeeping Mode. Change Home City to **TYO** (Tokyo), **NYC** (New York), **CHI** (Chicago), **DEN** (Denver), or **LAX** (Los Angeles). For information about selecting a Home City, see "Setting the Time and Date Manually".

The "📡" icon is not on the display even though auto signal reception is turned on.

Cause: • The "📡" icon appears after the watch successfully receives the calibration signal and adjusts the current time setting. A single receive operation was not successful. The "📡" icon is displayed only when both the hour-minute-second group and year-month-day group were received. It will not remain on the display if only the hour-minute-second group is received. The watch is not in the Timekeeping Mode or World Time Mode when an auto reception time is reached.

Corrective Measures: • Check to make sure the watch is in a location where it can receive the signal. Place the watch in a location where reception conditions are good. Make sure that the watch is in the Timekeeping Mode or World Time Mode when during the auto reception times. Note that manual reception also clears the "📡" icon from the display.

Time setting is incorrect following signal reception.

Cause: • Summer time is turned on or the wrong Home City is selected.

Corrective Measures: • If the time is advanced by one hour, it probably means that summer time (indicated by the DST indicator on the display) is turned on. If the time is off by more than one hour, it probably means that the Home City is selected. Use the procedure under "Setting the Time and Date Manually" to correct the applicable setting.

If you cannot receive the calibration signal or if the current time setting is incorrect after signal reception, check the current setup of the watch.

- The following are the watch's factory default settings, which are configured automatically whenever you have the battery of the watch replaced.

Auto Receive	ON	On
Transmitter	AUTO	Auto Japan transmitter select (40kHz/ 60kHz)
Home City	TYO	Tokyo
Summer Time	AUTO	Auto switching in accordance with signal data

Sunrise/Sunset Mode

The watch adjusts the sunrise and sunset times that it displays in accordance with your current location. To ensure proper display of sunrise and sunset times, you need to specify the name (city code), latitude, longitude, and GMT differential of your current location.

- Once you specify your current location, you do not need to change it unless you move to another relatively faraway location.
- The factory default configuration of the watch's location is: City: Tokyo; Latitude: North 35 degrees; Longitude: East 140 degrees; GMT Differential: +9 hours.

Configuring Location Settings

■ To specify the city

1. **In the Timekeeping Mode hold down the Ⓐ button for about two seconds until the current transmitter mode setting flashes on the display.**

- This is the setting screen.

2. **Press the Ⓒ button to display the city code selection screen.**

- The currently selected city code will be flashing on the screen.
- The city code you select here will also be used as your Home City code in the Timekeeping Mode.

3. **Use the Ⓒ (+) and Ⓑ (–) buttons to scroll through the city codes until the one you want is displayed.**

- Holding down either button scrolls at high speed.
- See the "World Time City List" for information about the display sequence of the city codes.

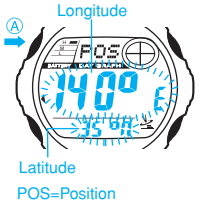
4. **When the city code you want is displayed, press the Ⓐ button twice to exit the setting screen.**

- This stops the flashing and displays the current time and date.
- The display also will exit the setting screen automatically if you do not perform any operation for about two or three minutes.

■ To specify the latitude, longitude, and GMT differential

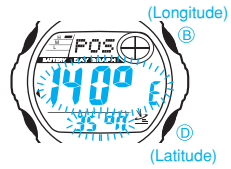
1. **In the Timekeeping Mode, press the Ⓒ button once to enter the Sunrise/ Sunset Mode.**

2. **Hold down the Ⓐ button for about two seconds until the latitude and longitude flash on the display.**



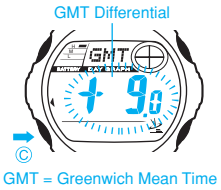
- This is the setting screen.

3. **Use the Ⓓ (latitude) and Ⓑ (longitude) buttons to scroll the latitude values on the display until they are configured the way you want.**

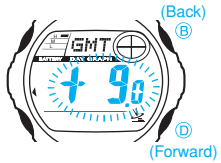


- Holding down either button scrolls at high speed.
  Latitude Range: 65S (South 65 degrees) – 0N – 65N (North 65 degrees)
  Longitude Range: 179W (West 179 degrees) – 0E – 180E (East 180 degrees)
- Latitude and longitude values are rounded off to the nearest degree.
- For more information about latitude and longitude, see "Japanese Latitudes and Longitudes" and "GMT Differential, Latitude, and Longitude".

4. **Press the Ⓒ button so the GMT differential setting flashes.**

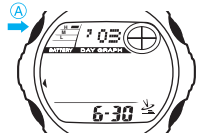


5. **Use the Ⓓ (+) and Ⓑ (–) buttons to change the GMT differential setting in 0.5-hour (30-minute) steps.**



- Holding down either button scrolls at high speed.
  GMT Differential Range: –11.0 hours to +14.0 hours.
- For more details about the GMT differential, see "GMT Differential, Latitude, and Longitude".

6. **When all the settings are the way you want, press the Ⓐ button.**

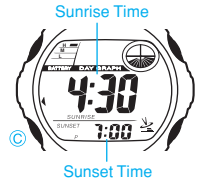


- This displays the current year, month, and day, following by the sunrise and sunset times for the current date and location.
- The display also will exit the setting screen automatically if you do not perform any operation for about two or three minutes.

Sunrise/Sunset Mode Screen

■ To view the sunrise and sunset times for the current date

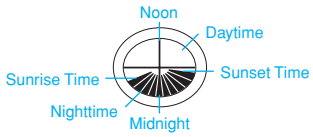
In the Timekeeping Mode, press the Ⓒ button once to enter the Sunrise/ Sunset Mode.



- This displays the sunrise and sunset times for the current date as kept in the Timekeeping Mode.

Graphic Display

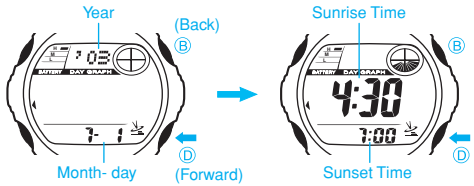
The graphic display in the upper right also indicates the sunrise and sunset times.



■ To view the sunrise and sunset times for a specific date

In the Sunrise/Sunset Mode, use the Ⓓ (+) and Ⓑ (–) buttons to scroll through dates until the one whose times you want to view is displayed.

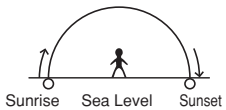
- Holding down either button scrolls at high speed.
- You can select any date within the range of January 1, 2000 through December 31, 2099.



- The watch will automatically return to the Timekeeping Mode if you do not perform any operation for two or three minutes in the Sunrise/Sunset Mode.

■ Sunrise and Sunset Times

- The sunrise and sunset times displayed by this watch are the times at sea level (0 meters). Sunrise and sunset times are slightly different at altitudes other than sea level. As a general rule, sunrise is earlier and sunset is later at higher altitudes.



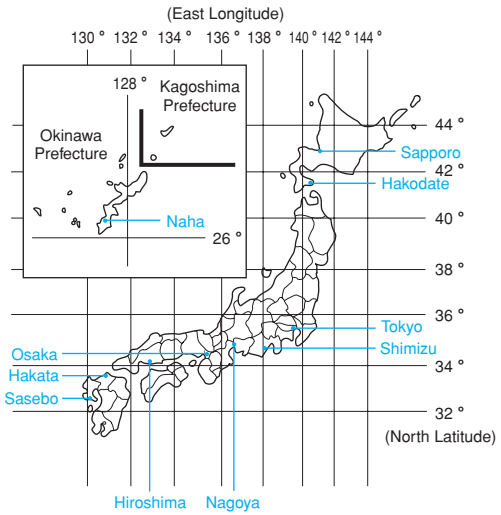
Sunrise/Sunset Time Calculation

Sunrise and sunset times are determined in accordance with apparent right ascension, sidereal time, and apparent declination (season-dependent solar altitude angle) based a particular location's GMT differential, latitude, and longitude. This watch uses a simplified calculation algorithm that applies this data to calculate reasonably accurate sunrise and sunset times. Depending on your location, however, there may be slight error in the sunrise and sunset times produced by this watch.

Sunrise/Sunset Time Calculation Error

Low to Mid Latitudes: Within about 5 minutes
High Latitudes: About 5 to 15 minutes

■ Japanese Latitudes and Longitudes



■ GMT Differential, Latitude, and Longitude

City Name	GMT Differential	DST	Longitude	Latitude
Pago Pago	–11	–10	171°W	14°S
Honolulu	–10	– 9	158°W	21°N
Papeete	–10	– 9	150°W	18°S
Anchorage	– 9	– 8	150°W	61°N
Los Angeles	– 8	– 7	118°W	34°N
San Francisco	– 8	– 7	122°W	38°N
Las Vegas	– 8	– 7	115°W	36°N
Vancouver	– 8	– 7	123°W	49°N
Seattle	– 8	– 7	122°W	48°N
Denver	– 7	– 6	105°W	40°N
El Paso	– 7	– 6	106°W	32°N
Edmonton	– 7	– 6	114°W	54°N
Chicago	– 6	– 5	88°W	42°N
Houston	– 6	– 5	95°W	30°N
New Orleans	– 6	– 5	90°W	30°N
Mexico City	– 6	– 5	99°W	19°N
New York	– 5	– 4	74°W	41°N
Montreal	– 5	– 4	74°W	45°N
Detroit	– 5	– 4	83°W	42°N
Miami	– 5	– 4	80°W	26°N
Boston	– 5	– 4	71°W	42°N
Panama	– 5	– 4	80°W	9°N
Lima	– 5	– 4	77°W	12°S
Caracas	– 4	– 3	67°W	10°N
San Diego	– 4	– 3	71°W	33°S
Rio de Janeiro	– 3	– 2	43°W	23°S

City Name	GMT Differential	DST	Longitude	Latitude
San Paolo	– 3	– 2	47°W	24°S
Brasilia	– 3	– 2	48°W	16°S
Buenos Aries	– 3	– 2	58°W	35°S
Azores	– 1	– 0	25°W	38°N
London	+ 0	+ 1	0°E	51°N
Dublin	+ 0	+ 1	6°W	53°N
Dakar	+ 0	+ 1	17°W	15°N
Lisbon	+ 0	+ 1	9°W	39°N
Paris	+ 1	+ 2	2°E	49°N
Milan	+ 1	+ 2	9°E	45°N
Rome	+ 1	+ 2	12°E	42°N
Madrid	+ 1	+ 2	4°W	40°N
Amsterdam	+ 1	+ 2	5°E	52°N
Hamburg	+ 1	+ 2	10°E	54°N
Stockholm	+ 1	+ 2	18°E	59°N
Frankfurt	+ 1	+ 2	9°E	50°N
Vienna	+ 1	+ 2	16°E	48°N
Cairo	+ 2	+ 3	31°E	30°N
Athens	+ 2	+ 3	24°E	38°N
Helsinki	+ 2	+ 3	25°E	60°N
Istanbul	+ 2	+ 3	29°E	41°N
Beirut	+ 2	+ 3	35°E	34°N
Damascus	+ 2	+ 3	36°E	33°N
Kuwait	+ 3	+ 4	48°E	29°N
Jeddah	+ 3	+ 4	39°E	21°N
Addis Ababa	+ 3	+ 4	39°E	9°N
Nairobi	+ 3	+ 4	37°E	1°S

City Name	GMT Differential	DST	Longitude	Latitude
Dubai	+ 4	+ 5	55°E	25°N
Abu Dhabi	+ 4	+ 5	54°E	24°N
Karachi	+ 5	+ 6	67°E	25°N
Dakar	+ 6	+ 7	90°E	24°N
Bangkok	+ 7	+ 8	100°E	14°N
Jakarta	+ 7	+ 8	107°E	6°S
Phnom Penh	+ 7	+ 8	105°E	12°N
Hanoi	+ 7	+ 8	106°E	21°N
Hong Kong	+ 8	+ 9	114°E	22°N
Singapore	+ 8	+ 9	104°E	1°N
Kuala Lumpur	+ 8	+ 9	102°E	3°N
Taipei	+ 8	+ 9	122°E	25°N
Manila	+ 8	+ 9	121°E	15°N
Perth	+ 8	+ 9	116°E	32°S
Tokyo	+ 9	+10	140°E	36°N
Seoul	+ 9	+10	127°E	38°N
Pyongyang	+ 9	+10	126°E	39°N
Sydney	+10	+11	151°E	34°S
Melbourne	+10	+11	145°E	38°S
Guam	+10	+11	145°E	13°N
Noumea	+11	+12	166°E	22°S
Port Vila	+11	+12	168°E	18°S
Wellington	+12	+13	175°E	41°S
Christchurch	+12	+13	173°E	43°S
Nauru	+12	+13	166°E	1°S

- The contents of the above table are current as of December 2002.
- Time differentials in the above table are in accordance with Universal Time Coordinated (UTC).
- The letters “DST” stand for “Daylight Saving Time,” which is another name for summer time. Note that the use of summer time depends on the country and even the local area.

Direction Mode

Before you can use the Direction Mode to determine a direction, you must first configure the watch for your current location. You need to specify the name (city code), latitude, longitude, GMT differential, of your current location, and the solar direction from your location.

- For information about specifying your city code, latitude, longitude, and GMT differential, see “Sunrise/Sunset Mode”.

- The Direction Mode uses the same city code, latitude, longitude, and GMT differential settings as those used by the Sunrise/Sunset Mode. If you have already configured these settings for Sunrise/Sunset Mode operations, you need only to configure the solar direction here.
- The factory default configuration of the Direction Mode settings is: City: Tokyo; Latitude: North 35 degrees; Longitude: East 140 degrees; GMT Differential: +9 hours; Solar Direction: South.

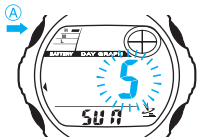
■ To specify the solar direction

Example: To specify the solar direction for Japan (south)

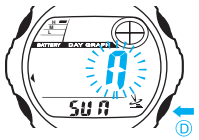
1. **In the Timekeeping Mode, press the Ⓒ button twice to enter the Direction Mode.**

2. **Hold down the Ⓐ button for about two seconds until the current solar direction setting flashes on the display.**

- This is the setting screen.



3. **Use the Ⓓ button to toggle the solar direction setting between “n” (north) and “S” (south).**



4. **When the setting is the way you want, press the Ⓐ button.**

- This exits the setting screen and displays an angle value that indicates the direction of the sun from your current location.
- The display also will exit the setting screen automatically if you do not perform any operation for about two or three minutes.

■ To determine a direction

1. **In the Timekeeping Mode, press the Ⓒ button twice to enter the Direction Mode.**

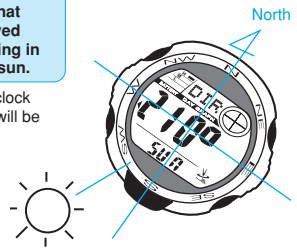
- The Direction Mode screen shows an angle value that indicates the direction of the sun from your current location.
- DIR = Direction

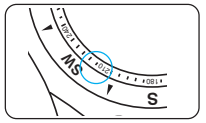
Direction (210 degrees)

2. **Position the watch to the value on the bezel that matches the displayed angle value is pointing in the direction of the sun.**

- At this time, the 12 o'clock position of the watch will be pointing north.

North





Important!

- The solar direction is a rough approximation only, based on the current time as kept in the Timekeeping Mode.
- Note that the Direction Mode cannot be used to determine a direction when any of the following conditions exist.
  - When the sun is not visible
  - At night or when the sun is below the horizon
  - When the sun is not to the north or south, or if you do not know where the sun is

Viewing Time Stamp (Time Memo) Data

You can view Time Stamp data in the Recall Mode, which you enter by pressing the Ⓒ button three times from the Timekeeping Mode. The Time Stamp function lets you store up to 30 records of time data (month, day, hour, minute, second). Time Stamp records serve as helpful memos when you need to remember the current date and time for some reason.

- In the Timekeeping Mode, hold down the Ⓑ button for about one second to create a Time Stamp record.
- Any time you enter the Recall Mode, the record you were viewing when you last exited the Recall Mode appears first, or, if you created a new Time Stamp record since then, the newly created record appears first.
- If you store a new Time Stamp record when there are already 30 records in memory, the oldest record is deleted automatically to make room for the new record.

■ To view time stamp records

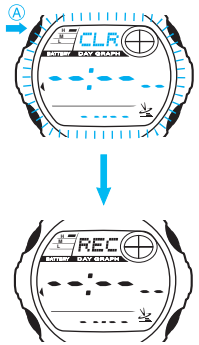
In the Recall Mode, use the Ⓓ (forward) and Ⓑ (back) buttons to scroll through Time Stamp records.

- Holding down either button scrolls at high speed.

■ To delete time stamp records

In the Recall Mode, hold down the Ⓐ button for two or three seconds.

- This clears all Time Stamp records.
- Note that you cannot delete individual Time Stamp records.



Turning Summer Time (Daylight Saving Time) On and Off

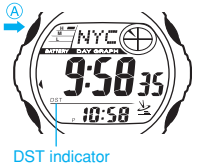
You can turn summer time on or off individually for each World Time city.

1. **Use the Ⓓ (+) and Ⓑ (–) buttons to scroll through the city codes until the one whose setting you want to change is displayed.**

- Holding down either button scrolls at high speed.

2. **Hold down the Ⓐ button for about one second to toggle summer time on ("DST" indicator displayed) or off (indicator not displayed).**

- The watch beeps whenever you change the summer time setting.



Summer time, or Daylight Saving Time (DST) as is it is called in some countries, calls for setting clocks ahead one hour during the summer season. Note that the use of summer time depends on the country and even the local area.

World Time Mode

World time lets you display the current time in any one of 30 cities (29 time zones) around the world.

When you enter the World Time Mode, the screen for the city that was displayed when you last exited the mode appears first.

- After you set the current time for the Home City in the Timekeeping Mode, the World Time Mode calculates the current time in other cities around the world using the GMT differential for each time zone.
- The seconds count in the World Time Mode is linked with the Timekeeping Mode seconds count.

If a World Time Mode time is incorrect, check the time setting and time zone setting of the Timekeeping Mode, and correct them if necessary.

- For information about selecting a Home City and setting the time, see "Setting the Time and Date Manually".

City Search

Use the Ⓓ (+) and Ⓑ (–) buttons to scroll through the city codes until the one you want is displayed.

- Holding down either button scrolls at high speed.
- See the "World Time City List" for information about the display sequence of the city codes.

World Time City List

City Code	City Name	GMT Differential
–––		–11
HNL	Honolulu	–10
ANC	Anchorage	–9
LAX	Los Angeles	–8
DEN	Denver	–7
CHI	Chicago	–6
NYC	New York	–5
CCS	Caracas	–4
RIO	Rio de Janeiro	–3
–––		–2
–––		–1
GMT	Greenwich Mean Time	+0
LON	London	+0
PAR	Paris	+1
BER	Berlin	+1
ATH	Athens	+2
CAI	Cairo	+2

City Code	City Name	GMT Differential
JRS	Jerusalem	+2
JED	Jeddah	+3
THR	Teheran	+3.5
DXB	Dubai	+4
KBL	Kabul	+4.5
KHI	Karachi	+5
DEL	Delhi	+5.5
DAC	Dakar	+6
RGN	Yangon	+6.5
BKK	Bangkok	+7
HKG	Hong Kong	+8
SEL	Seoul	+9
TYO	Tokyo	+9
ADL	Adelaide	+9.5
SYD	Sydney	+10
NOU	Noumea	+11
WLG	Wellington	+12

- The contents of the above table are current as of December 2002.
- Time differentials in the above table are in accordance with Universal Time Coordinated (UTC).

Alarm Mode

Your watch comes with five alarms and an hourly time signal.

■ Daily Alarms (AL 1 to AL 4)

The watch beeps for about 10 seconds when an alarm time is reached.

■ Snooze Alarm (SNZ)

With the snooze alarm, the watch beeps for 10 seconds when the alarm time is reached, and up to seven times at five-minute intervals thereafter (approximately 30 minutes total). Pressing any button stops the beeper, but the alarm will sound again after five minutes.

■ Hourly Time Signal

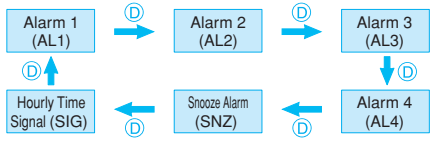
The hourly time signal causes the watch to beep every hour on the hour.

■ Testing the Alarm

In the Alarm Mode, hold down the Ⓑ button to sound the alarm.

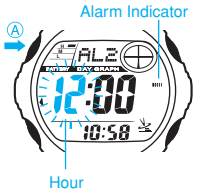
■ To set an alarm

1. **In the Alarm Mode, use the Ⓓ button to cycle through the alarm screens in the sequence shown below until the one you want to set is displayed.**



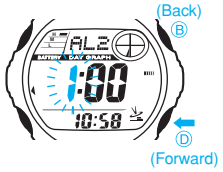
2. **Hold down the Ⓐ button for about two seconds until the hour digits of the alarm time start to flash.**

- This also causes the alarm indicator to appear and automatically turns on the alarm.

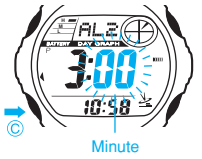


3. **Use the Ⓓ (+) and Ⓑ (–) buttons to change the hour setting.**

- Holding down either button scrolls at high speed.
- When setting the hour, make sure you specify AM (no indicator) or PM (P) correctly when using 12-hour timekeeping, or that you specify the correct 24-hour time.
- The same 12-hour/24-hour format you select for the Timekeeping Mode time is also applied in the Alarm Mode.



4. **Press the Ⓒ button so the minute setting flashes.**



5. **Use the Ⓓ (+) and Ⓑ (–) buttons to change the minute setting.**

- Holding down either button scrolls at high speed.

6. **When all the settings are the way you want, press the Ⓐ button.**

- This exits the setting screen.
- The display also will exit the setting screen automatically if you do not perform any operation for about two or three minutes.

■ To stop the alarm beeper

Press any button.

- In the case of the snooze alarm the alarm will sound again in about five minutes. "SNZ" flashes while the snooze alarm is active (indicating that the alarm will sound again).
- The snooze alarm will be canceled automatically when any of the following occurs while the SNZ indicator is flashing on the display.
  - If you turn off the snooze alarm in the Alarm Mode
  - If you enter the Alarm Mode, and then display the setting screen.
  - If you enter the Timekeeping Mode and then display the setting screen.

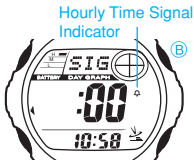
■ To turn an alarm or the hourly time signal on or off

1. **In the Alarm Mode, use the Ⓓ button to display the screen for the setting you want to turn on or off.**

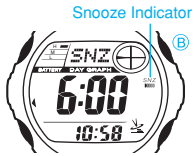
2. **Press the Ⓑ button to toggle the currently displayed item on or off.**

Alarm

Hourly Time Signal



Snooze Alarm



Stopwatch Mode

The stopwatch measures elapsed time in units of 1/100 second up to 23 hours, 59 minutes, 59.99 seconds (24 hours). When the maximum limit is reached, the elapsed time automatically returns to zero and timing continues from there.

Performing Stopwatch Operations

In the Stopwatch Mode, press the Ⓓ button to start and stop elapsed time measurement.

■ Elapse Time Measurement

Ⓓ Start → Ⓓ Stop → Ⓑ Reset

Cumulative Time Measurement

Pressing the Ⓓ button to restart the stopwatch without resetting it to all zeros resumes elapsed time measurement from where it was last stopped.

■ Split Time Measurement

Ⓓ Start → Ⓑ Record split → Ⓑ Release split → Ⓓ Stop → Ⓑ Reset

■ 1st and 2nd Place Finishers

Ⓓ Start → Ⓑ 1st finisher (Displays time of 1st finisher.) → Ⓓ 2nd finisher → Ⓑ Displays time of 2nd finisher. → Ⓑ Reset

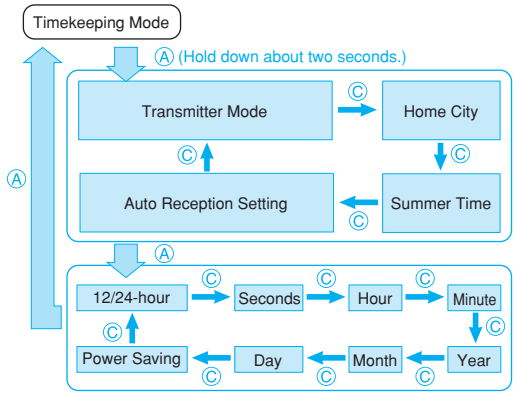
- Pressing the Ⓑ button while timing is being performed freezes the current elapsed time on the display, but timing of the next split continues internally.
- Changing to another mode while a split time is displayed cancels the split time operation.
- Pressing the Ⓑ button while timing is stopped resets the stopwatch to all zeros.

Setting the Time and Date Manually

You can use the following procedure to set the current time and date of the Home City that you have selected in the Timekeeping Mode.

- Always use the Timekeeping Mode to set and adjust the current time and date settings.

Settings



- While the setting screen (the one with a flashing setting) is on the display, use the Ⓒ and Ⓐ buttons to move the flashing between settings.

■ To configure settings

1. **In the Timekeeping Mode, hold down the Ⓐ button for about two seconds until the transmitter mode setting starts to flash on the display.**

- This is the setting screen.

2. **Use the Ⓒ and Ⓐ buttons to select the setting you want to change.**

3. **While the Home City code is flashing, use the Ⓓ (+) and Ⓑ (–) buttons to scroll through the city codes.**

- Holding down either button scrolls at high speed.
- See the "World Time City List" for information about the display sequence of the city codes.

4. **While the summer time setting is selected, use the Ⓓ button to cycle through the available settings: AUTO, OFF, ON.**

Summer time, or Daylight Saving Time (DST) as is it is called in some countries, calls for setting clocks ahead one hour during the summer season. Note that the use of summer time depends on the country and even the local area.

- **AUTO**
  This setting enables the auto summer time setting, which turns summer time on or off in accordance with the received time calibration signal.
  - This setting uses Japan summer time data when TYO is selected as the Home City code, and U.S. summer time data when NYC, CHI, DEN, or LAX is selected as the Home City code.
    In the United States, Daylight Saving Time (summer time) is from 2:00 a.m. on the first Sunday in April until 1:00 a.m. on the last Sunday in October.
- **OFF**
  This setting turns off summer time and displays the current time normally.
- **On**
  This setting turns on summer time and advances the current time by one hour.
  - The DST indicator appears on the display while summer time is turned on.

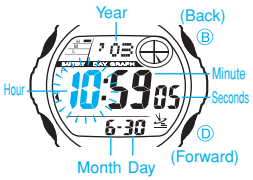
- Note that the above setting toggles between "OFF" and "On" when any city code other than HKG, SEL, TYO, NYC, CHI, DEN, LAX, ANC, or HNL is selected as the Home City.

5. **Pressing Ⓓ toggles the timekeeping format between 12-hour ("12H" indicator) and 24-hour ("24H" indicator).**

6. **While the seconds are selected, press the Ⓓ button to reset them to 00 in accordance with the time signal on the radio, TV, etc.**

- Pressing Ⓓ while the seconds count is in the range of 30 to 59 resets it to 00 and also adds 1 to the minutes. Pressing Ⓓ in the range of 00 to 29 resets the seconds count without changing the minutes.

7. **While the hour, minute, year, month, or day setting is flashing, use the Ⓓ (+) and Ⓑ (–) buttons to change the setting.**



- Holding down either button scrolls at high speed.
- When setting the hour, make sure you specify AM (no indicator) or PM (P) correctly, or that you specify the correct 24-hour time.
- You can set a date in the range of January 1, 2000 to December 31, 2099.
- The day of the week is set automatically in accordance with the date you set.

8. **While the power saving setting is selected, use the Ⓓ button to toggle it on or off.**

Use the Ⓒ and Ⓐ buttons to select each of the settings and the Ⓓ and Ⓑ buttons to change them.

9. **When all the settings are the way you want, press the Ⓐ button.**

- The figures on the display stop flashing.
- The display also will exit the setting screen automatically if you do not perform any operation for about two or three minutes.

The watch automatically makes adjustments for leap years and month lengths.