

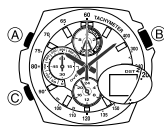
# Operation Guide 4798

CASIO®

## 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.

### Starting second hand movement and digital display



To conserve battery power, the watch is shipped from the factory with its functions disabled. Pressing any one of the watch's three buttons will activate its functions, which will cause the second hand to start moving and the digital display to activate.

**Your watch switches automatically between Standard Time and Daylight Saving Time (summer time).**

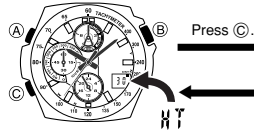
**Note, however, that switching cannot be performed correctly if the watch is not able to receive the time calibration signal.**

**If you notice that the current time is not displayed properly, use the procedure under "To perform manual receive" or "To set the time and date manually" to correct it.**

## General Guide

- Press (C) to change from mode to mode.
- About one or two seconds after you enter the Dual Time Mode, Alarm Mode, or Hand Setting Mode, the hands will move to the position that indicates the current setting of the mode.
- In the Timekeeping Mode (except when a setting screen is on the display), press (B) to illuminate the face of the watch for about one second.

### Timekeeping Mode



## Radio-controlled Atomic Timekeeping

This watch receives a time calibration signal and updates its time setting accordingly. The time calibration signal includes both Standard Time and Daylight Saving Time (summer time) data.

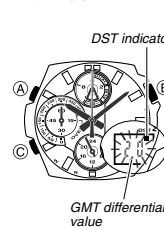
- Supported time calibration signals: Germany (Mainflingen), England (Rugby).
- See the information under "Signal Reception Troubleshooting" if you experience problems with time calibration signal reception.

### Current Time Setting

This watch adjusts its time setting automatically in accordance with a time calibration signal. You also can perform a manual procedure to set the time and date, when necessary.

- **The first thing you should do after purchasing this watch is to specify your Home Time Zone, which is the time zone where you normally will use the watch. For more information, see "To specify your Home Time Zone" below.**
- When using the watch outside the range of the time signal transmitter, you have to adjust the current time setting manually as required. See "Timekeeping" for more information about manual time settings.

### To specify your Home Time Zone



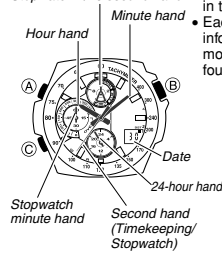
- In the Timekeeping Mode, hold down (A) until the GMT differential value starts to flash, which indicates the setting screen.
  - The second hand will move at high speed to the 12 o'clock position, where it will stop.
  - The GMT differential value indicates the time difference in hours between Greenwich Mean Time and the currently selected time zone.
  - The DST indicator indicates that Daylight Saving Time (summer time) is turned on for the currently selected time zone.
- Use (B) (+) to select the time zone you want to use as your Home Time Zone.
  - The table below shows the GMT differential values for major cities in the Western Europe time zones.

Time Zone	Other major cities in same time zone
+0.0 (DST +1.0)	London, Dublin, Lisbon, Casablanca, Dakar, Abidjan
+1.0 (DST +2.0)	Paris, Milan, Rome, Madrid, Amsterdam, Algiers, Hamburg, Frankfurt, Vienna, Stockholm, Berlin
+2.0 (DST +3.0)	Athens, Cairo, Jerusalem, Helsinki, Istanbul, Beirut, Damascus, Cape Town

- Press (A) to exit the setting screen.
  - The second hand will advance at high speed to the correct position and resume normal movement from there.
- Normally, your watch should show the correct time as soon as you specify your Home Time Zone. If it does not, it should adjust automatically after the next auto receive operation (in the middle of the night). You also can perform manual receive or you can set the time manually.
  - Selecting **+0.0, +1.0, or +2.0** (+1.0, +2.0, or +3.0 while DST is turned on) as your Home Time Zone turns on auto receive automatically. When auto receive is turned on and you are within the reception range, the watch will receive the time calibration signal automatically from the applicable transmitter (in the middle of the night) and update its settings accordingly. For information about the relationship between time zones (GMT differential values) and transmitters, see "Transmitters".
  - See the maps under "Reception Ranges" for information about the reception ranges of the watch.
  - If you are in an area that does not use Daylight Saving Time (summer time), turn off the DST setting.
  - Even if the time calibration signal is received correctly, there are some times when the analog hands may not indicate the correct time. If this happens, use the procedures under "Adjusting the Home Positions" to check the home positions of the hands, and make adjustments as required.

## About This Manual

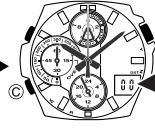
Stopwatch 1/20 second hand



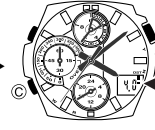
- Button operations are indicated using the letters shown in the illustration.

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.

### Stopwatch Mode



### Dual Time Mode



## Time Calibration Signal Reception

There are two different methods you can use to receive the time calibration signal: auto receive and manual receive.

### Auto Receive

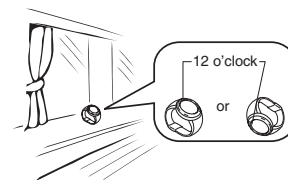
With auto receive, the watch receives the time calibration signal automatically up to six times a day. When any auto receive is successful, the remaining auto receive operations are not performed. For more information, see "About Auto Receive".

### Manual Receive

Manual receive lets you start a time calibration receive operation with the press of a button. For more information, see "To perform manual receive".

### Important!

- When getting ready to receive the time calibration signal, position the watch as shown in the nearby illustration, with its 12 o'clock side facing towards a window. Make sure there are no metal objects nearby.



- Make sure the watch is facing the right way.
- Proper signal reception can be difficult or even impossible under the conditions listed below.



- Inside or among buildings
- Inside a vehicle
- Near household appliances, office equipment, or a mobile phone
- Near a construction site, airport, or other sources of electrical noise
- Near high-tension power lines
- Among or behind mountains

- Signal reception normally is better at night than during the day.
- Time calibration signal reception takes from two to seven minutes, but in some cases it can take as long as 14 minutes. Take care that you do not perform any button operations or move the watch during this time.
- When within range of the applicable transmitter, this watch can receive either the Germany (Mainflingen) and England (Rugby) time calibration signals. See "Transmitters" for more information.

## Reception Ranges



- Signal reception may not be possible at the distances noted below during certain times of the year or day. Radio interference also may cause problems with reception. Mainflingen (Germany) or Rugby (England) transmitters: 500 kilometers (310 miles)
- Even when the watch is within the reception range of the transmitter, signal reception will be impossible if the signal is blocked by mountains or other geological formations between the watch and signal source.
- Signal reception is affected by weather, atmospheric conditions, and seasonal changes.

### About Auto Receive

The watch receives the time calibration signal automatically up to six times a day. When any auto receive is successful, the remaining auto receive operations are not performed. The reception schedule (calibration times) depends on your currently selected Home Time Zone, and whether standard time or Daylight Saving Time is selected for your Time Zone.

### Note

- Auto receive is turned on whenever **+0.0**, **+1.0**, or **+2.0** (+1.0, +2.0, or +3.0 while DST is turned on) is selected as the Home Time Zone.

Your Time Zone		Auto Receive Start Times					
		1	2	3	4	5	6
<b>+0.0</b> (DST +1.0)	Standard Time	1:00 am	2:00 am	3:00 am	4:00 am	5:00 am	Midnight
	Daylight Saving Time	2:00 am	3:00 am	4:00 am	5:00 am	Midnight	1:00 am*
<b>+1.0</b> (DST +2.0)	Standard Time	2:00 am	3:00 am	4:00 am	5:00 am	Midnight	1:00 am*
	Daylight Saving Time	3:00 am	4:00 am	5:00 am	Midnight	1:00 am*	2:00 am*
<b>+2.0</b> (DST +3.0)	Standard Time	3:00 am	4:00 am	5:00 am	Midnight	1:00 am*	2:00 am*
	Daylight Saving Time	4:00 am	5:00 am	Midnight	1:00 am*	2:00 am*	3:00 am*

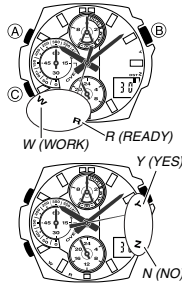
\*Next day

### Note

- The auto receive operation is performed only if the watch is in the Timekeeping Mode or Dual Time Mode when a calibration time is reached. It is not performed if a calibration time is reached while an alarm is sounding or while you are configuring settings.
- Auto receive of the calibration signal is designed to be performed early in the morning, while you sleep (provided that the Timekeeping Mode time is set correctly). Before going to bed for the night, remove the watch from your wrist, and put it in a location where it can receive the signal easily.
- The watch receives the calibration signal for two to 14 minutes everyday when the time in the Timekeeping Mode reaches each of the calibration times. Avoid performing any button operation within 14 minutes before or after any one of the calibration times. Doing so can interfere with correct calibration.
- Remember that reception of the calibration signal depends on the current time in the Timekeeping Mode.

### To perform manual receive

1. Place the watch on a stable surface so its 12 o'clock side is facing towards a window.
2. In the Timekeeping Mode, hold down (A) for about two seconds until the watch beeps.
3. The second hand will move to **R (READY)** to indicate that the watch is setting up for time calibration reception.
  - The second hand will move to **W (WORK)** and stay there while actual reception is in progress.
  - The hour and minute hands continue to keep time normally.
  - Time calibration signal reception takes from two to seven minutes, but in some cases it can take up to 14 minutes. Take care that you do not perform any button operations or move the watch during this time.
  - If reception is successful, the second hand will move to **Y (YES)**. One minute later, the hands will move to the correct time.

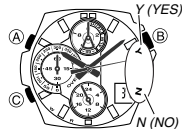


### Note

- To interrupt a receive operation and return to the Timekeeping Mode, press any button.
- If reception is not successful, the second hand will move to **N (NO)**. One minute later, the second hand will resume normal operation, without any adjustment of the hand setting.
- If the second hand is pointing to **Y (YES)** or **N (NO)**, you can return to the Timekeeping Mode by pressing any button.

### To check the latest signal reception results

- In the Timekeeping Mode, press (A).
- If the watch was able to perform a successful signal receive operation since midnight, the second hand will move to **Y (YES)**. If the watch has been unable to receive any signal successfully, the second hand will move to **N (NO)**.
  - The watch will return to the Timekeeping Mode after five seconds.
  - The current receive result is cleared when the first auto receive operation is performed on the following day. This means **Y (YES)** indicates successful signal reception since the start of the current day.
  - If you have adjusted the time or date setting manually, the second hand will indicate **N (NO)** here.



### Signal Reception Troubleshooting

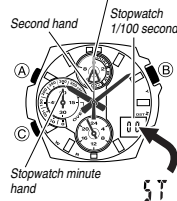
Check the following points whenever you experience problems with signal reception.

Problem	Probable Cause	What you should do
The second hand is pointing at <b>N (NO)</b> .	<ul style="list-style-type: none"> <li>• You changed the time setting manually.</li> <li>• You performed some button operation during the auto receive operation.</li> <li>• Signal reception results are reset when the first auto receive operation of the day is performed.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform manual signal receive or wait until the next auto signal receive operation is performed.</li> <li>• Check to make sure the watch is in a location where it can receive the signal.</li> </ul>
Time setting is incorrect following signal reception.	<ul style="list-style-type: none"> <li>• The Home Time Zone setting is not correct for the area where you are using the watch.</li> </ul>	<ul style="list-style-type: none"> <li>• Select the correct Home Time Zone.</li> </ul>

- For further information, see "Important!" under "Time Calibration Signal Reception" and "Radio-controlled Atomic Timekeeping Precautions".

### Stopwatch

Stopwatch 1/20 second hand  
\* This hand rotates and indicates the second count during the first 60 seconds.

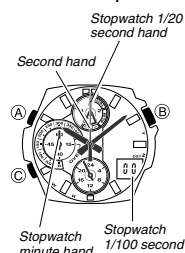


You can use the stopwatch to measure elapsed time, cumulative elapsed time, and lap times. You also can input the distance of the course or a particular segment of the course of the race you are watching. That distance is used along with the elapsed time, cumulative elapsed time, or lap time measured by the watch to calculate and display the average speed for the course or segment.

- See "Average Speed" for more information.
- **Never operate the stopwatch while operating any motor vehicle or while riding a motorcycle. Doing so is very dangerous and can cause an accident.**
- Entering the Stopwatch Mode causes the second hand, the stopwatch minute hand and stopwatch 1/20 second hand to move to the 12 o'clock position.

- 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.
- All of the operations in this section are performed in the Stopwatch Mode, which you enter by pressing (C).

### To measure elapsed time

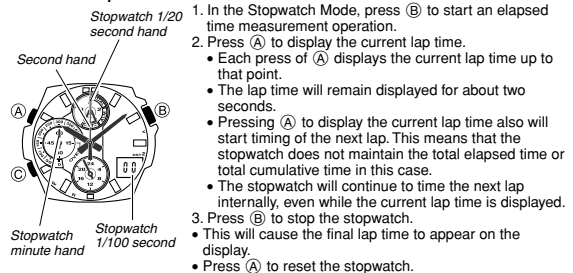


1. In the Stopwatch Mode, press (B) to start elapsed time measurement.
2. Press (B) to stop elapsed time measurement.
- The stopwatch 1/20 second hand will rotate for the first 60 seconds of the measurement operation only. After that, it will stop. Whenever you press (B) to stop a measurement operation, this hand will move automatically to the applicable 1/20 second position for the elapsed time, as measured internally by the watch.
- Press (A) to reset the stopwatch to zero.

### To measure cumulative elapsed time

1. In the Stopwatch Mode, press (B) to start elapsed time measurement.
2. Press (B) to stop elapsed time measurement.
3. Press (B) again to restart elapsed time measurement.
4. Press (B) to stop elapsed time measurement.
- Repeat steps 3 and 4 as many times as required.
- Press (A) to reset the stopwatch to zero.

### To measure lap times



1. In the Stopwatch Mode, press (B) to start an elapsed time measurement operation.
2. Press (A) to display the current lap time.
  - Each press of (A) displays the current lap time up to that point.
  - The lap time will remain displayed for about two seconds.
  - Pressing (A) to display the current lap time also will start timing of the next lap. This means that the stopwatch does not maintain the total elapsed time or total cumulative time in this case.
  - The stopwatch will continue to time the next lap internally, even while the current lap time is displayed.
3. Press (B) to stop the stopwatch.
- This will cause the final lap time to appear on the display.
- Press (A) to reset the stopwatch.

### Average Speed

You also can input the distance of the course or a particular segment of the course of the race you are watching. That distance is used along with the elapsed time, cumulative elapsed time, or lap time measured by the watch to calculate and display the average speed for the course or segment.

The average speed that appears for an elapsed time, cumulative elapsed time, or lap time is calculated based on the times described below.

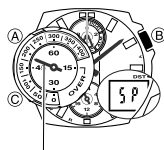
Elapsed time: Time from the point the stopwatch operation is started up until it was stopped.

Cumulative elapsed time: Total time from the point the cumulative elapsed time operation is started up until it was stopped. Does not include any time when the stopwatch operation was paused.

Lap time: Time of each particular lap.

- **Never operate the stopwatch while operating any motor vehicle or while riding a motorcycle. Doing so is very dangerous and can cause an accident.**
- For information about inputting a distance, see "To input a course or section distance".

## Average Speed Indication



Stopwatch minute hand

### Average Speed Indication



### Fastest Lap Time Indicator



### OVER Indication

The stopwatch minute hand will move the average speed value after you stop a time measurement or display a lap time. The letters **SP** flash on the digital display while the average speed is indicated.

### Stopping an Elapsed Time or Cumulative Elapsed Time Measurement

The stopwatch minute hand moves to the average speed value after you press (A) to stop measurement. After two seconds, the hand moves to the minutes of elapsed time.

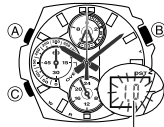
### Lap Time Measurement

The stopwatch minute hand moves to the average speed value after you press (A) to display a lap time or (B) to stop measurement. After two seconds, the hand moves to the minutes of lap time.

- If the value you input for the distance was in kilometers, the indicated speed values will show kilometers per hour. If the value you input was in miles, it will show miles per hour. Note that the watch does not have a setting for specifying kilometers or miles.
- The average speed is indicated as a value from 0 to 400, in increments of 10.
- If the currently displayed speed value for a lap is the fastest for any laps during the current measurement operation, the letter **F** (fastest lap time indicator) will flash on the digital display.
- Either of the following will cause the stopwatch minute hand to indicate **OVER**, which indicates that speed cannot be calculated.
  - When the speed calculation produces a value greater than 400
  - When a displayed elapsed time or cumulative elapsed time is 60 minutes or greater
  - When a displayed lap time is 60 minutes or greater (Average speed calculation will resume when timing of the next lap is performed.)

- It takes about two seconds before the average speed to be calculated and the speed is indicated for about two seconds, so the average speed operation takes a total of about four seconds. The watch will continue measuring the next lap internally during this time. Note, however, that pressing (B) will not display the time of the next lap during this four-second period.

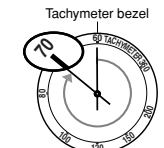
## To input a course or section distance



Distance value

1. In the Stopwatch Mode, hold down (A) for about two seconds until the current distance value setting flashes in the digital display. This is the setting screen.
2. Press (B) to increase the distance setting in steps of 0.1.
  - Simply input a distance value. It makes no difference whether the value represents kilometers or miles.
  - You can input a distance in the range of 0.1 to 19.9.
3. Press (A) to exit the setting screen.
  - To disable speed display, set the distance value to 0.0.

## Using the Tachymeter Bezel to Calculate Average Speed



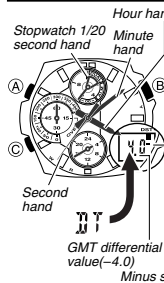
Tachymeter bezel

If your watch has a tachymeter bezel, you can perform the steps below to calculate average speed after using the Stopwatch Mode to measure the amount of time that it takes to travel one kilometer (or one mile).

- **Never try to perform stopwatch operations while you are driving an automobile, riding a bicycle, or operating any type of vehicle. Doing so is very dangerous and can result in accident.**
- ① In the Stopwatch Mode, start an elapsed time operation at any point you like.
- ② Stop the elapsed time operation after you travel one kilometer or one mile.
- ③ Your average speed will be the value that the second hand is pointing to on the tachymeter bezel.

- The illustration shows an example where it took 50 seconds to travel one kilometer by car. The second hand is pointing at 70, which indicates that the average speed is 70 kilometers per hour.
- The tachymeter can be used only when you are traveling by car or some other means that can cover one kilometer or one mile within 60 seconds.

## Dual Time



Second hand

GMT differential value(-4.0)  
Minus sign

The Dual Time Mode lets you view the current time in 29 time zones around the world.

- When you enter the Dual Time Mode, the stopwatch 1/20 second hand will move to **DUAL**.
- Time zones are indicated on the digital display by their GMT differential values.
- For full information on time zones, see the "Time Zone Table".
- The watch will perform a signal receive operation even if it is in the Dual Time Mode when a calibration time is reached. If this happens, the Dual Time Mode time settings will be adjusted in accordance with the current time in the Timekeeping Mode's Home Time Zone.
- All of the operations in this section are performed in the Dual Time Mode, which you enter by pressing (C).

## To view the time in another time zone

- While in the Dual Time Mode, press (B) to scroll eastward through time zones.
- When you release (B), the hands will move to the current time in that time zone after about one second.
- If the current time shown for a time zone is wrong, check the Timekeeping Mode time setting and your Home Time Zone setting, and make the necessary changes.

## To toggle a time zone between Standard Time and Daylight Saving Time



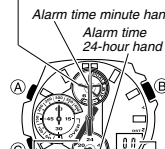
DST indicator

1. In the Dual Time Mode, use (B) to display the time zone whose Standard Time/Daylight Saving Time setting you want to change.
  2. Hold down (A) to toggle between Daylight Saving Time (DST indicator displayed) and Standard Time (DST indicator not displayed).
- Turning on DST causes the GMT differential value to be increased by one.

- The DST indicator appears on the display whenever you display a time zone for which Daylight Saving Time is turned on.
- The DST/Standard Time setting you configure affects only the currently displayed time zone. Other time zones are not affected.
- The (J) (GMT: Greenwich Mean Time) time zone cannot be switched between Standard Time and Daylight Saving Time.

## Alarm

### Stopwatch 1/20 second hand



Alarm time minute hand

Alarm time 24-hour hand

Alarm time hour hand

On/Off status

When the alarm is turned on, the alarm sounds when the alarm time is reached.

- When you enter the Alarm Mode, the stopwatch 1/20 second hand will move to **ALM**.
- All of the operations in this section are performed in the Alarm Mode, which you enter by pressing (C).

### To set an alarm time

1. In the Alarm Mode, hold down (A) for two seconds to display the setting mode.
2. Use (B) to change the alarm time.
  - Press (B) to move the hands clockwise in one-minute steps.
3. After setting the alarm time, press (A) to exit the setting mode.
- Setting the alarm time causes the alarm to turn on automatically.

### Alarm Operation

The alarm tone sounds at the preset time for 10 seconds, regardless of the mode the watch is in.

- Alarm operations are performed in accordance with the Timekeeping Mode time.
- Pressing any button stops the alarm tone operation.

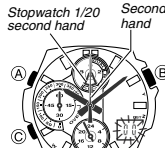
### To toggle an alarm on and off

- In the Alarm Mode, press (B) to toggle the alarm **ON** and **OFF**.
- The watch will beep when you turn on the alarm.

## Adjusting the Home Positions

If the time and date settings are wrong even after the time calibration signal is received normally, use the following procedure to adjust their home positions.

### To adjust the home positions



Stopwatch 1/20 second hand

Second hand

Minute hand

Hour hand

24-hour hand

Stopwatch 1/20 second hand

Stopwatch 1/20 second hand

Stopwatch 1/20 second hand

Stopwatch 1/20 second hand

Stopwatch 1/20 second hand

Stopwatch 1/20 second hand

Stopwatch 1/20 second hand

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Stopwatch 1/20 second hand

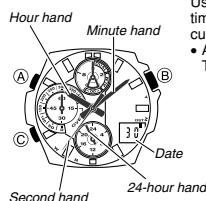
Stopwatch 1/20 second hand

Stopwatch 1/20 second hand

Stopwatch 1/20 second hand

Stopwatch 1/20 second hand

## Timekeeping



Use the Timekeeping Mode to set and view the current time and date. This section also explains how to set the current date and time manually.

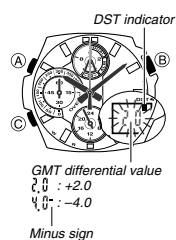
- All of the operations in this section are performed in the Timekeeping Mode, which you enter by pressing **(C)**.

### Setting the Time and Date Manually

Make sure you select your Home Time Zone before you change the current time and date settings. Dual Time Mode times are all displayed in accordance with the Timekeeping Mode settings. Because of this, Dual Time Mode times will not be correct if you do not select the proper Home Time Zone before setting the time and date in the Timekeeping Mode.

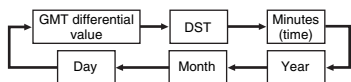
- When setting the time and date, you also can configure settings for your Home Time Zone (the time zone where you normally use the watch) and summer time (Daylight Saving time or DST).

### To set the time and date manually



- In the Timekeeping Mode, hold down **(A)** until the GMT differential value starts to flash, which indicates the setting screen.
  - The second hand will move at high speed to the 12 o'clock position, where it will stop.
  - The GMT differential value indicates the time difference in hours between Greenwich Mean Time and the currently selected time zone.
  - The DST indicator indicates that Daylight Saving Time (summer time) is turned on for the currently selected time zone.
- Use **(B)** to select the time zone you want to use as your Home Time Zone.
  - For full details about GMT differential values, see the "Time Zone Table".

- Press **(C)** to move the flashing in the sequence shown below to select other settings.



- When the setting you want to change is flashing, use **(B)** to change it as described below.

Screen	To do this:	Do this:
	Change the time zone	Use <b>(B)</b> (+).
	Toggle between Daylight Saving Time (), Standard Time (), or Auto DST ()	Press <b>(B)</b> .
	Change the minutes (time)	Use <b>(B)</b> (+).
	Change the year	
	Change the month	
	Change the day	

- Press **(A)** to exit the setting screen.
  - When you exit the setting screen, the analog hands are adjusted automatically to match the digital time.
  - Auto DST () can be selected only while **+0.0**, **+1.0**, or **+2.0** (+1.0, +2.0, or +3.0 while DST is turned on) is selected as the Home Time Zone. For more information, see "Daylight Saving Time (DST)" below.

### Daylight Saving Time (DST)

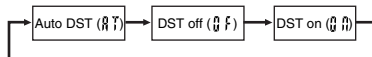
Daylight Saving Time (summer time) advances the time setting by one hour from Standard Time. Remember that not all countries or even local areas use Daylight Saving Time.

The time calibration signals include both Standard Time and DST data. When the auto DST setting is turned on, the watch switches between Standard Time and DST (summer time) automatically in accordance with the signal it receives.

- The auto DST setting can be turned on only while **+0.0**, **+1.0**, or **+2.0** (+1.0, +2.0, or +3.0 while DST is turned on) is selected as the Home Time Zone.
- If you experience problems receiving the time calibration signal in your area, it is probably best to switch between Standard Time and Daylight Saving Time (summer time) manually.

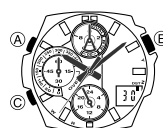
### To change the Daylight Saving Time (summer time) setting

- In the Timekeeping Mode, hold down **(A)** until the GMT differential value starts to flash, which indicates the setting screen.
- Press **(C)** to display the DST setting screen.
- Press **(B)** to cycle through the DST settings in the sequence shown below.



- Press **(A)** to exit the setting screen.
  - The DST indicator appears on the display to indicate that Daylight Saving Time is turned on.
  - Turning on DST causes the GMT differential value to be increased by one.

## Illumination



An LED (light-emitting diode) illuminates the face of the watch for easy reading in the dark. The watch's auto light switch illuminates the face automatically when you angle the watch towards your face.

- The auto light switch must be turned on for it to operate.
- See "Illumination Precautions" for other important information.

### To illuminate the face of the watch

In the Timekeeping Mode (except when a setting screen is on the display), press **(B)** to illuminate the face of the watch for about one second.

- The above operation turns on illumination regardless of the current auto light switch setting.

### About the Auto Light Switch

Turning on the auto light switch causes the face to illuminate, whenever you position your wrist as described below in any mode.

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

- Wear the watch on the outside of your wrist.



### Warning!

- Always make sure you are in a safe place whenever you are reading the face of 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 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 (except when a setting screen is on the display), hold down **(B)** for about three seconds to toggle the auto light switch on and off.

- Turning on the auto light switch will cause the watch to beep. The **ON** indicator will appear and the light will turn on for about one second.
- Turning off the auto light switch will cause the watch to beep. The **OFF** indicator will appear for about one second. The light will not turn on.
- In order to protect against running down the battery, the auto light switch turns off automatically approximately six hours after you turn it on.

## 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.

### Auto Return Features

- If you leave the watch in the Alarm or Hand Setting Mode for two or three minutes without performing any operation, it returns to the Timekeeping Mode automatically.
- If you do not perform any operation for about two or three minutes while a setting mode is selected, the watch will exit the setting mode automatically.

### Scrolling

- The **(B)** button is used to change the hand setting in various setting modes. In most cases, holding down this button will start high-speed movement of the applicable hand(s).
- High-speed movement of hands will continue until you press any button, or until the moving hand(s) finishes one complete cycle.
  - One complete cycle for the hands is one revolution (360 degrees) or 24 hours.

### Radio-controlled Atomic Timekeeping Precautions

- Strong electrostatic charge can result in the wrong time being set.
- The time calibration signal bounces off the ionosphere. Because of this, such factors as changes in the reflectivity of the ionosphere, as well as movement of the ionosphere to higher altitudes due to seasonal atmospheric changes or the time of day may change the reception range of the signal and make reception temporarily impossible.
- Even if the time calibration signal is received properly, certain conditions can cause the time setting to be off by up to one second.
- The current time setting in accordance with the time calibration signal takes priority over any time settings you make manually.
- The watch is designed to update the date and day of the week automatically for the period January 1, 2001 to December 31, 2099. Setting of the date by the time calibration signal cannot be performed starting from January 1, 2100.
- This watch can receive signals that differentiate between leap years and non-leap years.
- Though this watch is designed to receive both time data (hour, minutes, seconds) and date data (year, month, day), certain signal conditions can limit reception to time data only.
- If you are in an area where proper time calibration signal reception is impossible, the watch keeps time within  $\pm 20$  seconds a month at normal temperature.
- If you have problems with proper time calibration signal reception or if the time setting is wrong after signal reception, check your current time zone, and DST (summer time).

### Transmitters

This watch is designed to receive the time calibration signal transmitted from Mainflingen, Germany and the signal from Rugby, England. You can configure the watch to select the transmitter that has the strongest signal automatically.

In this case:	The watch does this:
The first signal auto search operation after factory default settings are in effect, or after the time zone has been changed	1. Checks the Mainflingen signal first. 2. If the Mainflingen signal cannot be received, checks the Rugby signal.
Any case other than the above.	1. Checks the last successfully received signal first. 2. If the last successfully received signal cannot be received, checks the other signal.

## Timekeeping

- The year can be set in the range of 2001 to 2099.
- 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 after you have the watch's battery replaced.
- The date will change automatically when the current time reaches midnight. The date change at the end of the month may take more time than normal.
- The current time for all time zones in the Timekeeping Mode and Dual Time Mode is calculated in accordance with the Greenwich Mean Time (GMT) differential of each zone, based on your Home Time Zone time setting.
- GMT differential is calculated by this watch based on Universal Time Coordinated (UTC\*) data.
  - \* UTC is the world-wide scientific standard of timekeeping. It is based upon carefully maintained atomic (cesium) clocks that keep time accurately to within microseconds. Leap seconds are added or subtracted as necessary to keep UTC in sync with the Earth's rotation. The reference point for UTC is Greenwich, England.

## Illumination Precautions

- The illumination provided by the light may be hard to see when viewed under direct sunlight.
- Illumination turns off automatically whenever an alarm sounds.
- Frequent use of illumination shortens the battery operating time.

## Auto light switch precautions

- Wearing the watch on the inside of your wrist, movement of your arm, or vibration of your arm can cause frequent activation of the auto light switch and illuminate the face of the watch. To avoid running down the battery, turn off the auto light switch whenever engaging in activities that might cause frequent illumination of the face.

More than 15 degrees  
too high



- Illumination may not turn on 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.
- Illumination 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 illumination does not turn on, try moving the watch back to the starting position (parallel with the ground) and then tilt it back towards your face 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, illumination may not turn on until about one second after you turn the face of the watch towards you. This does not necessarily indicate malfunction of the auto light switch.
- 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.

## Time Zone Table

GMT Differential Value		Major Cities in Same Time Zone
Standard Time	DST/Summer Time	
-11.0	DST -10.0	Pago Pago
-10.0	DST -9.0	Honolulu, Papeete
-9.0	DST -8.0	Anchorage, Nome
-8.0	DST -7.0	Los Angeles, San Francisco, Las Vegas, Vancouver, Seattle/Tacoma, Dawson City, Tijuana
-7.0	DST -6.0	Denver, El Paso, Edmonton, Culiacan
-6.0	DST -5.0	Chicago, Houston, Dallas/Fort Worth, New Orleans, Mexico City, Winnipeg
-5.0	DST -4.0	New York, Montreal, Detroit, Miami, Boston, Panama City, Havana, Lima, Bogota
-4.0	DST -3.0	Caracas, La Paz, Santiago, Port of Spain
-3.0	DST -2.0	Rio De Janeiro, Sao Paulo, Buenos Aires, Brasilia, Montevideo
-2.0	DST -1.0	
-1.0	DST +0.0	Praia
G 0.0	G 0.0	(GMT)
+0.0	DST +1.0	London, Dublin, Lisbon, Casablanca, Dakar, Abidjan
+1.0	DST +2.0	Paris, Milan, Rome, Madrid, Amsterdam, Algiers, Hamburg, Frankfurt, Vienna, Stockholm, Berlin
+2.0	DST +3.0	Cairo, Jerusalem, Athens, Helsinki, Istanbul, Beirut, Damascus, Cape Town
+3.0	DST +4.0	Jeddah, Kuwait, Riyadh, Aden, Addis Ababa, Nairobi, Moscow
+3.5	DST +4.5	Tehran, Shiraz
+4.0	DST +5.0	Dubai, Abu Dhabi, Muscat
+4.5	DST +5.5	Kabul
+5.0	DST +6.0	Karachi, Male
+5.5	DST +6.5	Delhi, Mumbai, Kolkata, Colombo
+6.0	DST +7.0	Dhaka
+6.5	DST +7.5	Yangon
+7.0	DST +8.0	Bangkok, Jakarta, Phnom Penh, Hanoi, Vientiane
+8.0	DST +9.0	Hong Kong, Singapore, Kuala Lumpur, Beijing, Taipei, Manila, Perth, Ulaanbaatar
+9.0	DST +10.0	Tokyo, Seoul, Pyongyang
+9.5	DST +10.5	Adelaide, Darwin
+10.0	DST +11.0	Sydney, Melbourne, Guam, Rabaul
+11.0	DST +12.0	Noumea, Port Vila
+12.0	DST +13.0	Wellington, Christchurch, Nadi, Nauru Island

- Based on data as of December 2006.