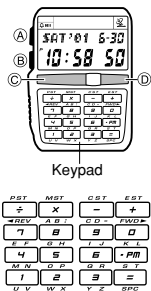


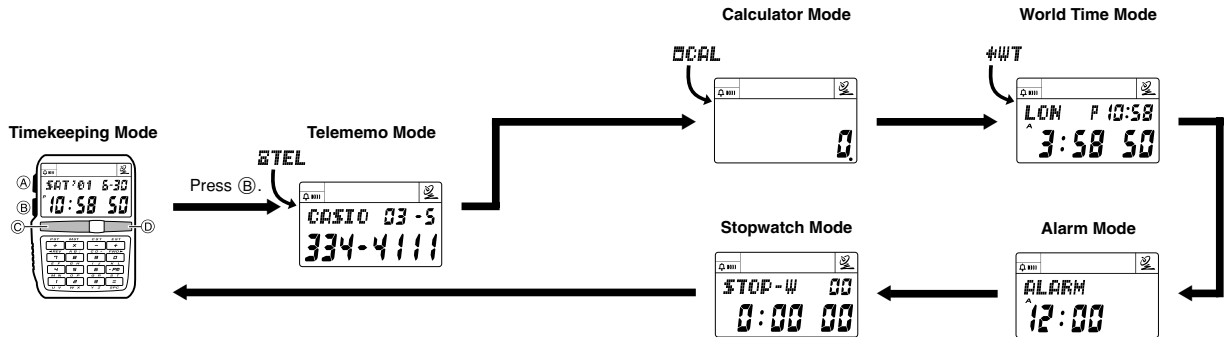
ABOUT THIS MANUAL



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

GENERAL GUIDE

- Press (B) to change from mode to mode.
- In any mode (except for the Stopwatch Mode), press (D) to illuminate the display.



TIMEKEEPING

This watch automatically adjusts its time setting in accordance with the time calibration signal (Call Sign: WWVB) transmitted from the National Institute of Standard and Technology (NIST) in Fort Collins, Colorado. You can also perform a manual procedure to set the time and date, when necessary.

Important!

- Before using the watch after purchasing it, use the procedure under "Selecting Your Time Zone City Code" to specify your city code, and then use the procedure under "To trigger a calibration signal receive operation manually".
- The Fort Collins time calibration signal includes both standard time and Daylight Saving Time data. This means the watch can automatically adjust for DST, even if you do not specify it manually. See "Daylight Saving Time Setting" for more information.

Setting the Time and Date

There are three different methods you can use to set the watch's time and date.

- Auto receive of the time calibration signal
 - Manual receive of the time calibration signal
 - Manual setting without using the time calibration signal
- No matter which method you use, you must specify your time zone city code first (see below).

Selecting Your Time Zone City Code

Use one of the procedures below to specify your current time zone. If you move to a different time zone either inside or outside of the Continental United States, simply change the time zone setting and the watch adjusts its current time and date settings accordingly.

- To select a time zone within the Continental United States, use the procedure under "To select your time zone city code".
- To select another time zone, use the procedure under "To select a time zone outside the Continental United States".

Important!

- Make sure you set the correct time zone city code for the time zone where you are located. The wrong time zone city will cause the watch to display the wrong time.
- The time zone city code (LAX, DEN, CHI, NYC, etc.) is not shown on the Timekeeping screen. See "To view the current time zone city code".

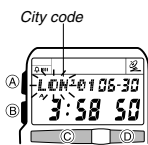
To select your time zone city code

In the Timekeeping Mode, use the key operations shown in the table below to select the indicated city code. Hold down this key until the watch beeps (about two seconds).

- Selecting a city code causes the year, month, day, hour, minutes, and DST settings to change accordingly.

If you are here:	Hold down this key until the watch beeps (about two seconds)	To select this city code	GMT time differential
LOS ANGELES, SAN FRANCISCO, LAS VEGAS, SEATTLE	[÷]	LAX	-8h
DENVER, EL PASO	[X]	DEN	-7h
CHICAGO, HOUSTON, DALLAS/FORT WORTH, NEW ORLEANS	[—]	CHI	-6h
NEW YORK, DETROIT, MIAMI, BOSTON	[+]	NYC	-5h

To view the current time zone city code



1. In the Timekeeping Mode, hold down (A) until the current Auto Receive On/Off setting starts to flash, which indicates the setting screen.
 2. Press (D) twice to display the city code setting screen.
 3. Press (A) to exit the setting screen.
- See the "CITY CODE TABLE" at the back of this manual for information about time zone and applicable cities.

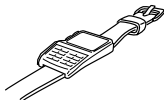
To select a time zone outside the Continental United States

1. In the Timekeeping Mode, hold down (A) until the current Auto Receive On/Off setting starts to flash, which indicates the setting screen.
2. Press (D) twice to display the city code setting screen.
3. Use [÷] (REV) and [+] (FWD) to scroll through time zone city codes until the one you want is displayed.
4. Press (A) to exit the setting screen.

Time Calibration Signal Reception

Removing the watch from your wrist and positioning it as shown in the illustrations nearby helps to optimize signal reception.

Resin band



Metal band

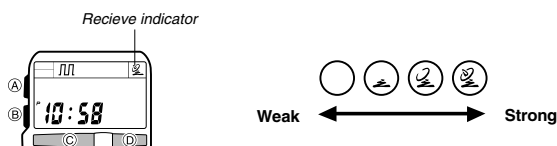


Note

- Place the watch on a stable surface so its top (12 o'clock side) is facing in the general direction of Fort Collins, Colorado.
- See "Time Calibration Signal Reception Precautions" for important information about time calibration signal reception.

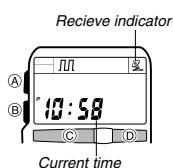
About the Receive Indicator

The receive indicator shows the strength of the calibration signal being received. For best reception, be sure to keep the watch in a location where signal strength is strongest.



- Even in an area where signal strength is strong, it takes about 10 seconds for signal reception to stabilize enough for the receive indicator to indicate signal strength.
- Use the receive indicator as a guide for checking signal strength and for finding the best location for the watch during signal receive operations.
- The receive indicator remains on the display in all modes following reception of the time calibration signal and calibration of the watch's time setting. The receive indicator does not appear if signal reception was unsuccessful or after manual adjustment of the current time setting.

To trigger a calibration signal receive operation manually



1. Place the watch on a stable surface so its top (12 o'clock side) is facing in the general direction of Fort Collins, Colorado.
 - This puts the watch in the optimum position for time calibration signal reception.
2. In the Timekeeping Mode, hold down (C) for about two seconds, until the watch beeps.
 - At this time, the (signal strength icon) indicator on the watch's display should scroll from left to right, which indicates that signal reception has started.

- Time calibration signal reception takes from four to 11 minutes. Take care that you do not move the watch during this time.
- To interrupt a receive operation and return to the Timekeeping screen, press (A).
- When a receive operation is successful, the receive date and time change, and the receive indicator appears on the Last Signal screen.

Note

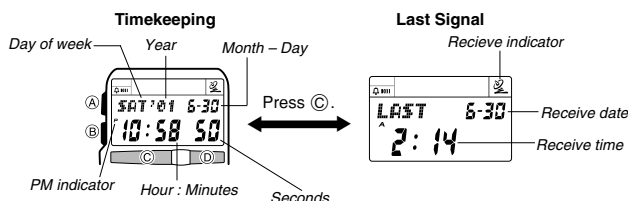
- If the receive operation is unsuccessful, the message "ERR" appears on the Last Signal screen for about one or two minutes. After that, the watch returns to the Timekeeping screen.

Last Signal Screen

The Last Signal Screen appears after the watch attempts a calibration receive operation. The Last Signal screen shows the date and time of the last receive operation if it was successful, or an error message if the receive operation failed. You can also display the Last Signal screen at any time using the button operation described below.

To toggle between the Timekeeping and Last Signal screens

In the Timekeeping Mode, press (C) to toggle between the Timekeeping screen and the Last Signal screen.



About Auto Receive

When auto receive is turned on, the watch automatically starts to receive the time calibration signal when the Timekeeping Mode reaches a calibration time (0:00 AM, 2:00 AM, and 4:00 AM) each day.

Note

- The Auto Receive operation is performed only if the watch is in the Timekeeping Mode or World Time Mode when one of the calibration times is reached. It is not performed if the calibration time is reached while you are making settings (while settings are flashing on the display), while an alarm is sounding or while you are performing a key operation.
- Auto receive is performed at 0:00 AM, 2:00 AM, and 4:00 AM, 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 easily receive the signal.
- The receive indicator (signal strength icon) indicates that one, two, or all three of the last calibration time reception attempts were successful. The receive indicator disappears from the display when the Timekeeping Mode reaches midnight or when you perform a manual receive operation.
- When auto receive is turned on, the watch receives the calibration signal for four to 11 minutes each day when the Timekeeping Mode time reaches 0:00 AM, 2:00 AM, and 4:00 AM. Do not operate any of the watch's buttons within 15 minutes prior to or following the calibration times. Doing so can interfere with correct calibration.
- Remember that reception of the calibration signal depends on the Timekeeping Mode time. The receive operation will be performed whenever the Timekeeping Mode time is 0:00 AM, 2:00 AM, and 4:00 AM, regardless of whether or not the displayed time is actually the correct time.
- When two or three receptions are successful, the watch uses the data of the last reception for calibration. When only one reception is successful, the watch uses the data of the successful reception.

To turn auto receive on and off



1. In the Timekeeping Mode, hold down (A) until the current Auto Receive On/Off setting starts to flash, which indicates the setting screen.
2. Press (C) or (D) to toggle Auto Receive on (ON) and off (OFF).
3. Press (A) to exit the setting screen.

Setting the Time and Date Manually

The times displayed in the Timekeeping Mode and World Time Mode are linked. Even if you plan to use the watch without enabling auto time calibration, be sure to select a time zone city code (the time zone whose time and date you are setting), before you set the time and date. When you move to another time zone, you can adjust watch's time by simply selecting the new time zone.

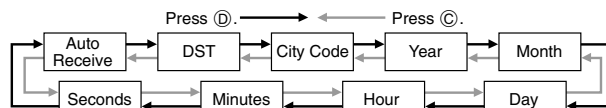
Note

If the receive indicator is on the display, manually changing the date, time, DST, or time zone setting causes it to disappear.

To set the current time and date manually



1. In the Timekeeping Mode, hold down (A) until the current Auto Receive On/Off setting starts to flash, which indicates the setting screen.
2. Press (C) or (D) to move the flashing in the sequence shown below to select other settings.



3. When the setting you want to change is flashing (selected), use the applicable key operation shown below to change it.

To change this setting:	Perform this key operation:
Time Zone City Code	Use (REW) and (FWD) to scroll through settings. • See the "CITY CODE TABLE" at the back of this manual for a complete list of available city codes. Note The City Code for your currently selected time zone appears first whenever you display the Time Zone City Code setting screen.
Year, Month, Day, Hour, Minutes	Use the keypad key to input values. • The flashing selection automatically advances to the right each time you input a number. • You should input both digits for the hour, minutes, year, month, and day settings. If you want to specify 3 o'clock, for example, input (0) (3) for the hour.
Seconds	Press (0) to reset the seconds to 00.

- See "About Auto Receive" for information about the Auto Receive Setting.
- See "Daylight Saving Time (DST)" for information about the Daylight Saving Time (DST) Setting.
- While any selection is flashing, press (B) to toggle between 12-hour format (A or P indicator appears) and 24-hour format (no indicator).
- While hour or minutes is flashing, press (PM) to toggle between AM (A indicator appears) and PM (P indicator appears).

4. Press (A) to exit the setting screen.

Daylight Saving Time (DST)

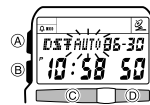
Daylight Saving Time automatically advances the time setting by one hour from Standard Time. Remember that not all countries or even local areas use Daylight Saving Time.

Daylight Saving Time Setting

The time calibration signal sent from Fort Collins includes Standard Time and Daylight Saving Time information. Selecting **DST AUTO** for the DST setting after you select the city code for your current time zone, you do not need to make any adjustments to switch between Standard Time and Daylight Saving Time while you are in a U.S. area where Daylight Saving Time is followed. The initial factory default setting for the DST setting is **DST AUTO**.

- Make sure you change the DST setting to **DST OFF** when you are in a U.S. area that does not follow DST.
- You need to set the DST setting whenever the time zone of the city code you have selected is outside the Continental United States.

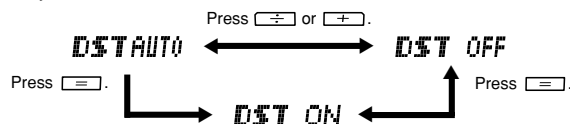
To change the Daylight Saving Time setting



1. In the Timekeeping Mode, hold down (A) until the current Auto Receive On/Off setting starts to flash, which indicates the setting screen.
2. Press (D) once to display the DST setting screen.
3. Use the key operations in the illustration below to select **DST AUTO**, **DST ON**, or **DST OFF**.

Important!

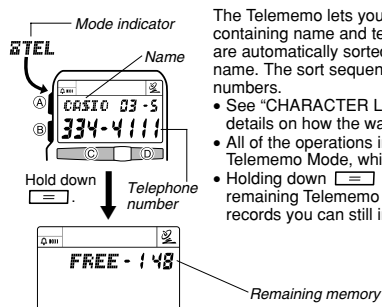
Note that the **DST AUTO** option is available while the time zone city code setting is **LAX**, **DEN**, **CHI**, or **NYC** only. For other time zones, you can select **DST ON** or **DST OFF** only.



When you want the watch to do this:	Select this DST setting:
Keep Daylight Saving Time turned on, regardless of the DST data contained in the time calibration signal	DST ON
Keep Daylight Saving Time turned off (Standard Time), regardless of the DST data contained in the time calibration signal	DST OFF
Automatically turn Daylight Saving Time on (DST) and off (Standard Time) in accordance with the time calibration signal	DST AUTO

4. Press (A) to exit the setting screen.
- A **DST** indicator appears on the display whenever the displayed time is Daylight Saving Time.

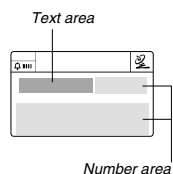
TELEMEMO



The Telememo lets you store up to 150 records, each containing name and telephone number data. Records are automatically sorted based on the characters of the name. The sort sequence is letters first, followed by numbers.

- See "CHARACTER LIST" at the back of this manual for details on how the watch sorts records.
- All of the operations in this section are performed in the Telememo Mode, which you can enter by pressing (B).
- Holding down (B) in the Telememo Mode displays remaining Telememo memory capacity (the number of records you can still input).

About Name and Number Input



You can input characters at the flashing cursor position. There are two areas where you can input characters: a text area and a number area.

- You tell when you are in the text area because the cursor looks like (). In the number area, the cursor appears as a short bar ().
- You can input 8 characters for the text area and 12 digits for the number area.
- While the cursor is in the text or number area (see "To create a new Telememo record"), use the keypad to input characters and numbers.

Text area

Use this area for the name. You can input alphabetic characters (A through Z), numbers (0 through 9), hyphens (-), periods (.), colons (:), and blank spaces.

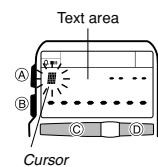
- Each key is assigned more than one character. Each press of a key sequentially changes the character at the cursor position. Pressing (7), for example, changes the characters at the cursor position in the sequence: U → V → 1 → U etc. The letters that a key inputs are printed below the key, while the number it inputs is printed on the key itself.
- Use () to input a space, (PM) to input a period, () to input a hyphen, and (X) to input a colon.

Number area

You can input numbers (0 to 9), hyphens (-) and spaces for telephone numbers.

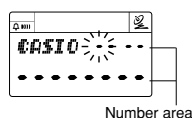
- Use () to input a space and () to input a hyphen.
- The number area initially contains all hyphens. You can leave the hyphens or replace them with numbers or spaces.

To create a new Telememo record



New Record Screen

- In the Telememo Mode, press () or () to display the blank New Record screen.
 - If the message **FULL** appears on the display, it means that memory is full. To store another record, you will first have to delete some of the records currently in memory. Press () or () to exit the **FULL** message screen.
- Hold down (A) until the flashing cursor appears on the display.
- Input a name in the text area.
 - See "Text area" for details on how to input characters in the text area.
 - When the character you want is at the cursor position, press (D) to move the cursor to the right. Pressing (C) moves the cursor the left.
- After you input a name, use (D) to move the cursor to the number area.
 - The text area can hold up to 8 characters. When the cursor is located at the eighth space of the text area, moving the cursor to the right causes it to jump to the first digit in the number area. When the cursor is at the 12th digit of the number area, moving it to the right causes it to jump back up to the first character of the text area.
 - Pressing (C) moves the cursor the left, while (D) moves it to the right.



Number area

- Input a telephone number in the number area.
 - See "Number area" for details on how to input numbers in the number area.
 - Each time you input a digit, the cursor automatically moves to the right.
 - If you want to change a digit you already input, use (C) and (D) to move the cursor to the location of the digit and input the correct number.
- After inputting data, press (A) to store it.
 - When you press (A) to store data, the message **SORT** appears on the display for a few seconds. After the sort operation is complete, the cursor appears in the text area, ready for input a new Telememo record.
- Input more records (starting from step 3) or press (A) again to return to the Telememo record screen.
 - The text area of the display can show six characters at a time, so longer text scrolls continuously from right to left.

Recalling Telememo Records

You can recall records by scrolling through them on the display, or by using Index Search. With Index Search, you input the first letter of the record's name data, and the watch displays the first record that matches.

To recall Telememo records by scrolling

In the Telememo Mode, press () to scroll forward through the records or () to scroll in reverse.

To recall Telememo records using Index Search



- While Telememo data is on the display, press (C) to display the Index Search screen.
- Use the keypad to input the first letter of the name whose record you want to recall.
 - Pressing () or () without inputting anything displays the New Record Screen.
- Press () or () to display the first Telememo record whose name entry starts with the letter you specified.
- Use () (REW) and () (FWD) to scroll through other records from the recalled Telememo record.

Editing and Deleting Telememo Records

Use the following procedures to edit and delete existing Telememo records.

To edit a Telememo record

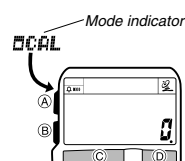


- In the Telememo Mode, recall the Telememo record you want to edit.
- Hold down (A) until the cursor appears on the display.
- Use (C) and (D) to move the cursor to the character you want to change.
 - Use the keypad to make any changes you want.
 - For details on inputting characters, see "About Name and Number Input".
- After making the changes that you want, press (A) to store them.

To delete a Telememo record

- In the Telememo Mode, recall the Telememo record you want to delete.
- Hold down (A) until the cursor appears on the display.
- Hold down (B) until the message **CLEAR** appears on the display.
 - After the record is deleted, the cursor appears on the display.
- Input data or press (A) to return to the New Record screen.

CALCULATOR



The Calculator Mode lets you perform addition, subtraction, multiplication, and division and other operations using 8-digit values (7 digits for negative values, because one digit is used by the minus sign).

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

Using the Calculator for Calculations

Input calculations just as you do with any standard calculator, as shown in the examples below. Be sure to press (C) to clear the calculator before beginning each calculation.

- If the result of a calculation exceeds 8 digits, an **E** (error) indicator appears on the display. Press (C) to clear the error indicator.

To perform basic calculations

The +, -, ×, and ÷ indicators appear on the display whenever you press the corresponding operation key.

Example	Operation	Display
12.3 + 74 - 90 = -3.7	12 (PM) 3 (+) 74 (-) 90 (=)	-3.7
(12 - 0.5) × 3 ÷ 7 = 4.9285714	12 (-) (PM) 5 (X) 3 (÷) 7 (=)	4.9285714

To perform constant calculations

Input the number you want to use as a constant, and then press one of the arithmetic keys twice. This causes the **K** indicator to appear on the display, indicating constant calculations.

Example	Operation	Display
10 + 7 = 17	7 (+) (+) 10 (=)	+K 17.
12 + 7 = 19	12 (=)	+K 19.
78 - 12 = 66	12 (-) (-) 78 (=)	-K 66.
45 - 12 = 33	45 (=)	-K 33.

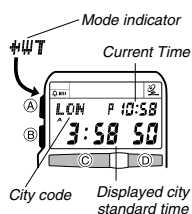
Example	Operation	Display
$2 \times 12 = 24$	12 $\times$ 2 $=$	$\times K$ 24.
$5 \times 12 = 60$	5 $\times$	$\times K$ 60.
$45 \div 9 = 5$	9 $\div$ 45 $=$	$\div K$ 5.
$72 \div 9 = 8$	72 $\div$	$\div K$ 8.
$17 + 17 + 17 + 17 = 68$	17 $+$ $+$ $+$ $+$ $=$	$+ K$ 68.
$(2.3)^4 = 27.9841$	2 $\square PM$ 3 $\times$ $=$ $\square PM$ 3 $\times$ $=$	$\times K$ 27.9841
	To perform the above $(2.3^2)^2$	
	2 $\square PM$ 3 $\times$ $=$ $\square PM$ 3 $\times$ $=$	27.9841

To correct input errors and clear the calculator

The following table describes how to correct input errors and how to clear the calculator after you finish using it.

When you need to do this:	Perform this key operation:
Correct or change the value you are currently inputting, without deleting the rest of the calculation you have input	Press $\odot$ to clear the displayed value and return to the 0 display. Next, input the value you want.
Correct or change the arithmetic operator (+, -, $\times$, $\div$) you have just input	Without pressing $\odot$, press the key for the correct arithmetic operator.
Clear the calculation you are inputting	Press $\odot$ to clear the displayed value and return to the 0 display. Next, press $\odot$ again.
Clear a displayed calculation result (produced by pressing the $\square +$, $\square -$, $\square \times$, $\square \div$ or $\square =$ key) and its calculation	Press $\odot$.

WORLD TIME



The World Time Mode shows the current time in 27 cities (29 time zones) around the world.

- For full information on city codes, see "CITY CODE TABLE" at the back of this manual.
- All of the operations in this section can be performed in the World Time Mode, which you can enter by pressing $\odot$.

To view the time in another city

In the World Time Mode, press $\square +$ to scroll forward through the city codes and $\square -$ to scroll back.

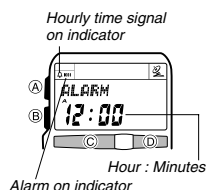
To toggle a World Time city between DST and standard time

- In the World Time Mode, display the city code whose DST/Standard Time setting you want to change.
 - You can make separate settings for each city code.
- Hold down $\odot$ for about two seconds to toggle between DST (DST displayed) and standard time (DST not displayed).
 - The DST indicator appears on the display to indicate that daylight saving time is turned on.
 - Note that the DST/Standard Time setting affects only the currently displayed city code. Other city codes are not affected.

Note

- The DST setting of the World Time Mode and Timekeeping Mode are linked. This means that using the World Time Mode to change the DST setting of the city that you have selected as your current time zone in the Timekeeping Mode also changes the setting of your current time zone.
- If you have a North American time zone (LAX, DEN, CHI, NYC) selected in the Timekeeping Mode and DST AUTO turned on for the DST setting, changing the DST setting in the World Time Mode for your time zone also turns DST AUTO off and changes the time zone to the DST setting (DST ON or DST OFF) you select. If you wish to continue automatic switching between DST and Standard Time, you must change the DST setting back to DST AUTO.

ALARM



You can set a Daily Alarm that sounds at the same time each day, while it is turned on. You can also turn on an Hourly Time Signal that causes the watch to beep twice every hour on the hour.

- Alarm settings (and Hourly Time Signal settings) are available in the Alarm Mode, which you can enter using $\odot$.

Important!

Setting an alarm time in period from midnight to 0:15AM, 2:00AM to 2:15AM, or 4:00AM to 4:15AM causes the automatic calibration signal receive operation during that period to be skipped.

To set the alarm time

- In the Alarm Mode, hold down $\odot$ until the left hour digit of the alarm time starts to flash, which indicates the setting screen.
 - This operation automatically turns on the Daily Alarm.
- Use the keypad to input the alarm time.
 - The flashing selection automatically advances to the right each time you input a number. You can also use $\odot$ and $\odot$ to move the flashing digit between the left hour, right hour, left minute's, and right minute's settings.
 - If you are using the 12-hour timekeeping format, press $\square PM$ to toggle between AM and PM.
 - When setting the alarm time using the 12-hour format, take care to set the time correctly as a.m. (A indicator) or p.m. (P indicator).
- Press $\odot$ to exit the setting screen.

Daily Alarm Operation

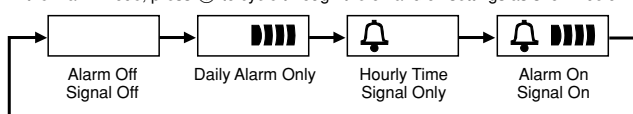
The alarm sounds at the preset time each day for about 10 seconds, or until you stop it by pressing any button.

To test the alarm

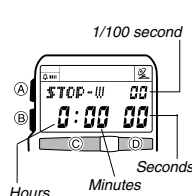
In the Alarm Mode, hold down $\odot$ to sound the alarm.

To turn the daily alarm and hourly time signal on and off

In the Alarm Mode, press $\odot$ to cycle through the on and off settings as shown below.



STOPWATCH



The stopwatch lets you measure elapsed time, split times, and two finishes.

- The display range of the stopwatch is 23 hours, 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 can enter by pressing $\odot$.

To measure times with the stopwatch

Elapsed Time



Split Time



Two Finishes



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.

To turn the input tone on and off

- Enter the Calculator Mode.
- Hold down $\odot$ for about two seconds to toggle the input tone on and off.
 - The input tone on/off setting you make in the Calculator Mode is applied to all other modes, except the Stopwatch Mode.

Auto Return Features

- After you perform an operation in any mode, pressing $\odot$ returns to the Timekeeping Mode.
- If you leave a screen with flashing a digit or a cursor on the display for two or three minutes without performing any operation, the watch automatically saves anything you have input up to that point and exits the setting screen.
- If you leave the watch in the Telememo or Alarm Mode for about two minutes without performing any operation, it automatically changes to the Timekeeping Mode. The watch also reverts to the Timekeeping Mode if you leave it in the Calculator Mode for about six or seven minutes without performing any operation.

Data and Setting Scrolling

The $\square \leftarrow$ (REV) and $\square \rightarrow$ (FWD) keys are used in various modes and setting screens to scroll through data on the display. In most cases, holding down these keys during a scroll operation scrolls through the data at high speed.

Initial Screens

When you enter the Telememo or World Time Mode, the data you were viewing when you last exited the mode appears first.

Timekeeping

- Pressing $\square$ while setting the current time in the Timekeeping Mode resets the second's count to zero. Pressing $\square$ while second's count is in the range of 30 to 59 resets the seconds to **00** and adds 1 to the minutes. In the range of 00 to 29, the minute's count is unchanged.
- The day of the week is automatically displayed in accordance with the date (year, month, and day) settings.
- The year can be set in the range of 2000 to 2099. Going past December 31, 2099 reverts to January 1, 2000.
- The watch's built-in full automatic calendar automatically 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.

12-hour/24-hour Timekeeping

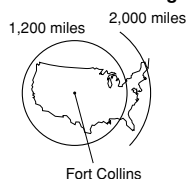
The 12-hour/24-hour timekeeping format you select in the Timekeeping Mode is also applied in the World Time and Alarm Modes.

- With the 12-hour format, the **P** (PM) indicator appears to the left of the hour digits for times in the range of noon to 11:59 pm. The **A** (AM) indicator is shown from midnight to 11:59 am.
- With the 24-hour format, times are indicated in the range of 0:00 to 23:59, without any indicator.

World Time Mode

- The current times in all World Time Mode cities are calculated in accordance with the Greenwich Mean Time (GMT) differential for each city, based on the current Time Zone City time setting in the Timekeeping Mode.
- GMT differential is calculated by this watch based on Universal Time Coordinated (UTC) data.
- The second's count of the World Time is synchronized with the second's count of the Timekeeping Mode.

Time Calibration Signal Reception Precautions



- This watch receives the time calibration signal (Call Sign: WWVB) transmitted from Fort Collins, Colorado. Signal reception is possible within a radius of about 2,000 miles (3,000 kilometers) from the Fort Collins transmitter.
- The current time setting in accordance with the time calibration signal takes priority over any time settings you make.
- The Fort Collins time calibration signal includes DST data.
- The watch is designed to automatically update the date and day of the week for the period January 1, 2000 to December 31, 2039. Setting of the date by the time calibration signal cannot be performed starting from January 1, 2040.
- This watch can receive signals that differentiate between leap years and non-leap years.
- The daily alarm and hourly time signal do not operate during signal reception.
- Even when the watch is within the reception range, signal reception is 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.
- The time calibration signal is bounced 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.
- This watch receives the time calibration signal transmitted from Fort Collins, Colorado. This means that reception is best when the antenna built into the 12 o'clock edge of the watch is facing towards Fort Collins. Note, however, that moving the watch while the time calibration signal receive operation is taking place will make stable reception impossible.
- Think of the watch as acting like a TV or radio when it is receiving the calibration signal. When receiving indoors, move to a location as near as possible to a window. Proper signal reception can be difficult or even impossible under the conditions listed below.
 - Near TVs, refrigerators, computers, or other household appliances
 - Far away from broadcasting stations among ferro-concrete structures or near mountains
 - Underground, in tunnels or in ferro-concrete buildings
 - Near high-tension wires, neon signs, or radio stations with interfering frequencies
 - Near railroads, highways or airports
 - In trains or cars
- Radio interference can make signal reception impossible.
- Strong electrostatic charge can result in the wrong time being set.
- If you are in an area where proper time calibration signal reception is impossible, the watch keeps time within ± 15 seconds a month at normal temperature.

Backlight Precautions

The backlight uses an EL (electro-luminescent) panel that causes the entire display to glow for easy reading in the dark. In any mode (except for the Stopwatch Mode), press $\square$ to illuminate the display for about two seconds.

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

About the Battery

The indicator **BATT** flashes on the display whenever battery power is below a certain level. Low battery power can cause the following conditions to occur.

- Dim, difficult-to-read display characters
- Failure of the backlight and alarm operations
- Failure of time calibration signal reception
- Inability to input or recall Telememo data

If battery power goes low while you are inputting Telememo data, the data you are inputting may not be saved in memory. Normal watch operation will return after the **BATT** indicator disappears. If it does not disappear, have the battery replaced.

ALWAYS LEAVE BATTERY REPLACEMENT UP TO THE DEALER WHERE YOU BOUGHT THE WATCH OR TO AN AUTHORIZED CASIO DISTRIBUTOR. BE SURE TO SHOW THE FOLLOWING INFORMATION TO THE PERSON REPLACING THE BATTERY.

RECOVER Message

Certain functions consume large amounts of battery power, and using them too much can cause a sudden momentary drop in battery power. The watch monitors how much you use these high consumption functions, and displays the **RECOVER** message whenever it determines you are using them too much.

- Backlight and alarm operation, time calibration signal reception, and all Telememo operations are disabled while **RECOVER** is on the display.
- The following are the trigger values for functions that are monitored for battery usage.

High Power Consumption Function	Trigger Value
Backlight	100 operations
Signal Receive	100 operations
Button Input Tone	1,600 operations

- RECOVER** appears whenever any of the above operations is performed individually in succession for the number of times indicated by its trigger value. **RECOVER** also appears when a combination of functions reaches a trigger value. Examples: 50 backlight operations + 50 signal receive operations, 25 backlight operations + 25 signal receive operations, + 800 button input tone operations, etc.
- RECOVER** disappears from the display after the battery recovers its normal power level after it has a chance to "rest."

Attention dealer or CASIO distributor

Be sure to use the following procedure when replacing the battery.

- Open and remove the back cover.
 - Opening the back cover causes the message **OPEN** to appear on the display.
 - If **CLOSE** appears on the display when you open the back cover, replace the back cover. Wait for a few minutes and try again.
- Remove the battery holder.
- Remove the old battery and load a new one.
- Replace the battery holder.
- Touch the **AC** contact and the battery **[+]** side with metallic tweezers.
 - The **AC** (all clear) operation **DOES NOT** delete Telememo data stored in memory.
- Close the back cover.
- Press any button besides $\square$. This causes the watch to start an internal data check, which is indicated by **CHECK** appearing on the display. The Timekeeping Mode display appears after the internal check is complete.
 - The internal check takes up to five or six minutes. All watch buttons are disabled during that time.

CITY CODE TABLE

City Code	City	GMT Differential	Other major cities in same time zone
---		-11	PAGO PAGO
HNL	HONOLULU	-10	PAPEETE
ANC	ANCHORAGE	-9	NOME
LAX	LOS ANGELES	-8	SAN FRANCISCO, LAS VEGAS, VANCOUVER, SEATTLE, DAWSON CITY
DEN	DENVER	-7	EL PASO, EDMONTON
CHI	CHICAGO	-6	HOUSTON, DALLAS/FORT WORTH, NEW ORLEANS, MEXICO CITY, WINNIPEG
NYC	NEW YORK	-5	MONTREAL, DETROIT, MIAMI, BOSTON, PANAMA CITY, HAVANA, LIMA, BOGOTA
CCS	CARACAS	-4	LA PAZ, SANTIAGO, PORT OF SPAIN
RIO	RIO DE JANEIRO	-3	SAO PAULO, BUENOS AIRES, BRASILIA, MONTEVIDEO
---		-2	
---		-1	PRAIA
GMT			DUBLIN, LISBON, CASABLANCA, DAKAR, ABIDJAN
LON	LONDON	+00	
PAR	PARIS	+01	MILAN, ROME, MADRID, AMSTERDAM, ALGIERS, HAMBURG, FRANKFURT, VIENNA, STOCKHOLM, BERLIN
CAI	CAIRO		
JRS	JERUSALEM	+02	ATHENS, HELSINKI, ISTANBUL, BEIRUT, DAMASCUS, CAPE TOWN
JED	JEDDAH	+03	KUWAIT, RIYADH, ADEN, ADDIS ABABA, NAIROBI, MOSCOW
THR	TEHRAN	+3.5	SHIRAZ
DXB	DUBAI	+04	ABU DHABI, MUSCAT
KBL	KABUL	+4.5	
KHI	KARACHI	+05	MALE
DEL	DELHI	+5.5	MUMBAI, CALCUTTA
DAC	DHAKA	+06	COLOMBO
RGN	YANGON	+6.5	
BKK	BANGKOK	+07	JAKARTA, PHNOM PENH, HANOI, VIENTIANE
HKG	HONG KONG	+08	SINGAPORE, KUALA LUMPUR, BEIJING, TAIPEI, MANILA, PERTH, ULAANBAATAR
TYO	TOKYO	+09	SEOUL, PYONGYANG
ADL	ADELAIDE	+9.5	DARWIN
SYD	SYDNEY	+10	MELBOURNE, GUAM, RABAUL
NOU	NOUMEA	+11	PORT VILA
WLG	WELLINGTON	+12	CHRISTCHURCH, NADI, NAURU ISLAND

• Based on data as of December 2000.

CHARACTER LIST

1	(space)	10	I	19	R	28	0	37	9
2	A	11	J	20	S	29	1	38	—
3	B	12	K	21	T	30	2	39	.
4	C	13	L	22	U	31	3	40	:
5	D	14	M	23	V	32	4		
6	E	15	N	24	W	33	5		
7	F	16	O	25	X	34	6		
8	G	17	P	26	Y	35	7		
9	H	18	Q	27	Z	36	8		