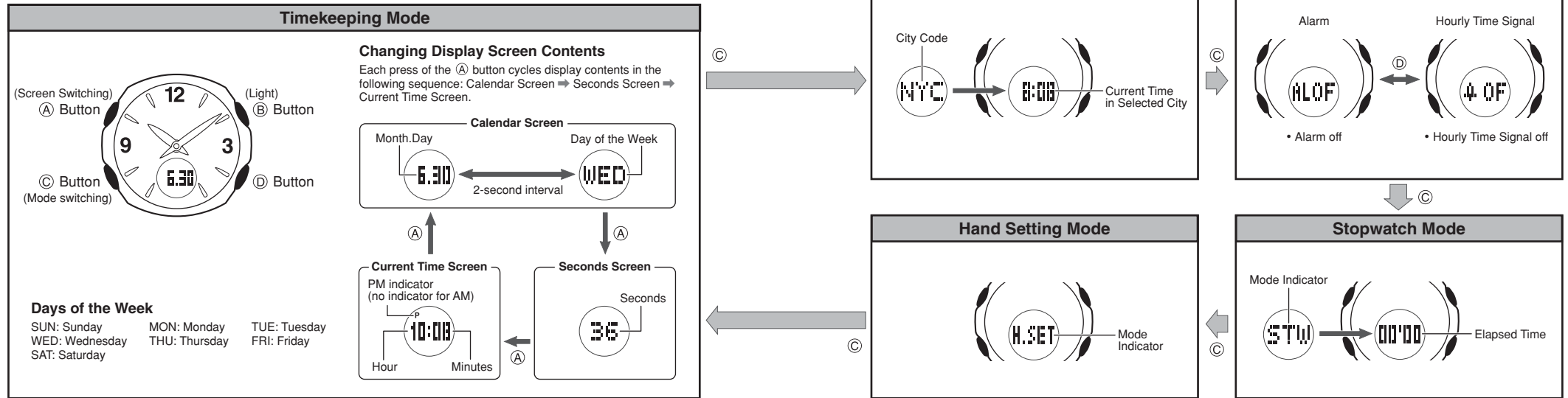


Modes and Display Screens

Each press of the **(C)** button sounds a confirmation tone and cycles through available modes in the sequence shown below.

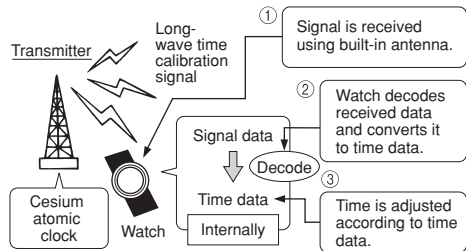
- The display will automatically revert to the Timekeeping screen if you leave the Alarm or Hand Setting screen displayed without performing any operation for about two or three minutes.



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 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 National Institute of Information and Communications Technology (NICT). 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.

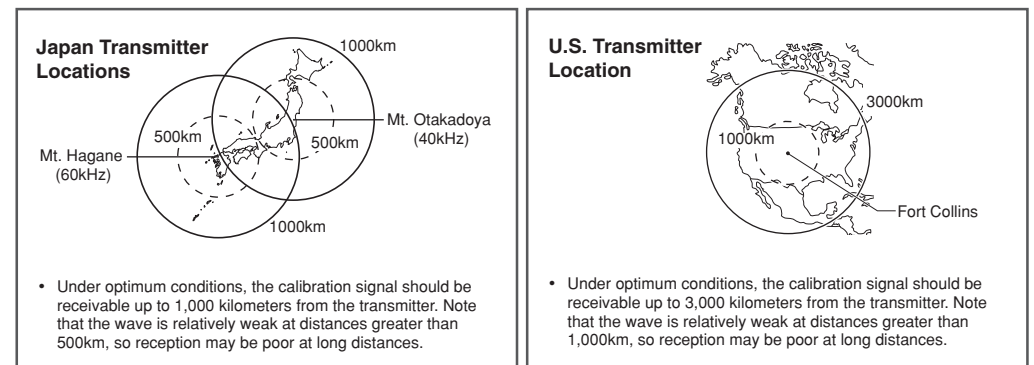
Note that transmission of the standard wave may be interrupted occasionally due to maintenance, lightning, etc.

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 Time setting.

- For information about selecting a Home City, see "Configuring Home Time Settings". For information about city codes, see the "World Time City Code List".

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



- Geographic contours, nearby buildings, seasonal conditions, 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, computer, cell 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.

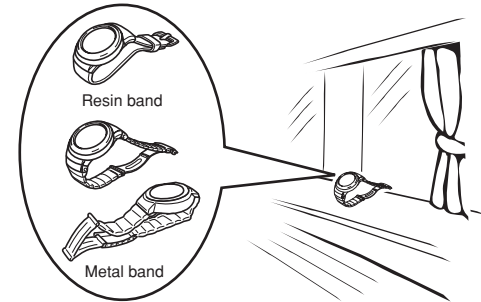
Receiving the Calibration Signal

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

- Auto receive (Reception is performed automatically at midnight, 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 receive at the factory, so all you need to do is to place it in a location that allows good reception each night.

To position the watch for optimum reception

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 the watch 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.

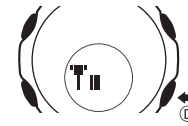
Time Required for Reception

A calibration signal receive operation takes anywhere from about two to six minutes.

- Note that when "AUTO" (Auto Select) is specified as the transmitter selection mode, signal reception can take up to 12 minutes.
- See "Configuring Auto Receive Settings" for more information.

To perform manual receive

In the Timekeeping Mode, hold down the **(D)** button for about two seconds.



- The watch will beep and reception will start. An indicator will appear on the display to indicate reception conditions.

To interrupt reception

Press the **(@)** button.

- All other buttons besides **(D)** 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 that the adjustment was performed.

Reception Error (ERR Indicator)

- The watch does not adjust its current time setting, and displays "ERR" when signal reception is unsuccessful for some reason.
- The watch will return to the Timekeeping Mode 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.



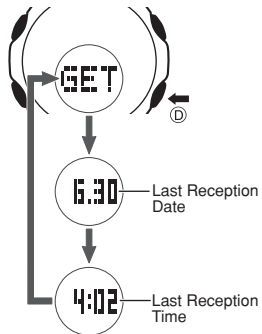
- Even under optimum reception conditions, it can take about 10 seconds for reception to stabilize.

- Use the receive indicator 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.

To view the last reception date and time

In the Timekeeping Mode, press the **(@)** button.

- This causes the display to start cycling through the "GET" screen, last reception date screen, and last reception time screen at two-second intervals.
- To return to the Timekeeping Mode, press the **(D)** button again.
- The watch will return to the Timekeeping Mode automatically if you do not perform any operation for about one or two minutes.



Configuring Auto Receive Settings

Use the procedure below to turn auto receive of the time calibration signal on or off. When **TYO** (Tokyo) is selected as your Home City, you can also specify the transmitter selection mode, which controls which Japanese transmitter signal should be used for time calibration.

- For information about selecting your Home City, see "Configuring Home Time Settings".
- The initial factory default settings for auto receive are Home City = **TYO** (Tokyo); Auto Receive = On; Transmitter = **AUTO**
- The following procedure can be performed only when **TYO**, **LAX**, **DEN**, **CHI**, or **NYC** is selected as the Home City.

To configure auto receive settings

1. In the Timekeeping Mode, press the **(@)** button.



- This will cause the display to start cycling through the last reception date and time screens.
- The watch will return to the Timekeeping Mode automatically if you do not perform any operation for about one or two minutes.

2. Hold down the **(A)** button for about two seconds.



- This will cause the currently auto receive setting to flash on the display.

3. Press the **(D)** button to cycle through the available auto receive settings.



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



- This will exit the setting screen and return to the last reception date and time screens.
- To return to the Timekeeping Mode, press the **(D)** button again.
- The watch will return to the Timekeeping Mode automatically if you do not perform any operation for about one or two minutes.

Auto Receive Settings when the Home City is TYO

- AUTO**
Auto receive turned on with automatic selection of either the Mt. Otakadoya signal (40kHz) or the Mt. Hagane signal (60kHz), whichever is strongest.
- 40**
Auto receive turned on for the Mt. Otakadoya signal (40kHz).
- 60**
Auto receive turned on for the Mt. Hagane signal (60kHz).
- OFF**
Auto receive turned off.

Auto Receive Settings when the Home City is NYC, CHI, DEN, or LAX

- ON**
Auto receive turned on for the Ft. Collins, Colorado signal.
- OFF**
Auto receive turned off.

Calibration Signal Reception

Precautions

- Auto reception can be performed while the watch is in the Timekeeping Mode or World Time Mode only.
- When a time calibration signal is received, the watch corrects its digital time setting first, and then adjusts the analog time setting accordingly. In order to ensure that the analog time matches the digital time, make sure you adjust the analog time to match the digital time before signal reception is performed.
- Pressing 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, seasonal conditions, 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. It operates like a standard (non-radio controlled) watch outside of the range 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

The watch cannot receive the time calibration signal.

- Is the signal being transmitted?
 - Though the Japanese calibration signal (Call Sign: JJY) is continually transmitted by the National Institute of Information and Communications Technology (NICT) in theory, it may sometimes be interrupted for periodic maintenance work, or because of lightning or other problems.
- Are you within the reception range of a transmitter?
 - See "Reception Range" for information about areas where the watch can receive the signal.
- Is there something in the immediate area that may be interfering with reception?
 - Even if you are within the reception range of a transmitter, objects between you and the transmitter or electrical noise can interfere with reception. Avoid such areas during signal reception. See "Location" for more information.
- Do you have the correct Home City code selected?
 - Remember that auto receive is not performed unless **TYO** (Japan), **NYC** (New York), **CHI** (Chicago), **DEN** (Denver), or **LAX** (Los Angeles) is selected as the Home City. Select the correct Home City code using the procedure under "To configure home time settings".
- Is auto receive turned off (OFF)?
 - Use the procedure under "Configuring Auto Receive Settings" to turn on auto receive.
- Is the watch in any mode other than the Timekeeping Mode or World Time Mode during the auto receive times (midnight, 2:00 a.m., 3:00 a.m., 4:00 a.m., and 5:00 a.m.)?
 - Auto receive is performed only when the watch is in the Timekeeping Mode or World Time Mode. It is not performed if the watch is in any other mode.

Time calibration signal reception is successful, but the hourly time signal and current time are slightly off.

- After the watch receives the time calibration signal, it performs an internal decoding process before updating its time setting. Because of this, the time setting may be slightly off (within one second).

Time calibration signal reception is successful, but the current time is one hour fast.

- Do you have summer time (DST) turned on (ON)?
 - Use the procedure under "To configure home time settings" to turn off summer time.

Time calibration signal reception is successful, but the current time setting is wrong.

- Is the correct city code selected for your Home City?
 - If you are in Japan, you should have **TYO** selected for your Home City. For other areas, select the correct Home City code using the procedure under "To configure home time settings".

The auto receive ON/OFF settings don't appear when configuring auto receive settings.

- Auto receive ON/OFF settings do not appear on the display unless **TYO** (Japan), **NYC** (New York), **CHI** (Chicago), **DEN** (Denver), or **LAX** (Los Angeles) is selected as the Home City. Use the procedure under "To configure home time settings" to select your correct Home City.

The auto receive AUTO, 40, and 60 settings do not appear when configuring auto receive settings.

- The AT, JP40, and JP60 transmitter selection mode options are available only when **TYO** (Tokyo) is selected as the Home City code. Use the procedure under "To configure home time settings" to select your correct Home City.

What time is auto receive performed?

- Auto receive is performed in the middle of the night, when reception conditions are best. Before going to bed at night, place the watch near a window, with its 12 o'clock position facing in the general direction of the transmitter.

How can I perform manual receive?

- Hold down the lower right **D** button for about two seconds. The watch will beep to indicate that manual receive has started. Place it near a window, with its 12 o'clock position facing in the general direction of the transmitter.

How can I view the last reception date and time?

- In the Timekeeping Mode, press the lower right **D** button. This will display the date and time that the time calibration signal was last received successfully. To return to the Timekeeping Mode, press the **D** button again.

- Check the auto signal reception setting whenever you have problems with signal reception or when the time setting produced by signal reception is incorrect.
 - The initial factory default configuration of the reception settings are shown below. You do not need to change these settings if you use the watch in Japan.

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

Face Illumination

Pressing the **B** button in any mode (except when a flashing setting screen is displayed) illuminates the face of the watch for easy reading in the dark.

- You can use the procedure under "To specify the illumination duration" to configure the illumination duration as approximately 1.5 seconds or 3 seconds.



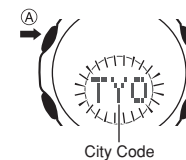
Important!

- The light may be difficult to see if you turn it on under bright sunlight.
- If you press a button that sounds a confirmation tone to sound or if an alarm operation starts while the face is illuminated, illumination will turn off.
- Illumination is disabled while a manual time calibration signal receive operation is in progress.

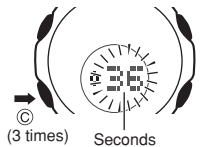
To specify the illumination duration

- In the Timekeeping Mode, hold down the **A** button for about two seconds.

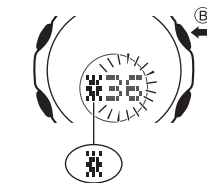
- This will cause your city code to flash on the display.



- Press the **C** button three times to display the flashing seconds count.



- Press the **B** button to toggle the illumination duration between about 1.5 seconds (**1.5** indicator) and 3 seconds (**3** indicator).



- After the setting is the way you want, press the **A** button to exit the setting screen.

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

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.
- The seconds count in the World Time Mode is linked with the Timekeeping Mode seconds count.
- The same 12-hour/24-hour format you select for the Timekeeping Mode time is also applied in the World Time Mode.

Important!

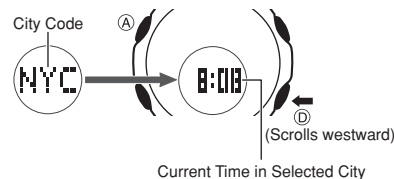
If the World Time Mode time is incorrect, correct the setting of the current time or change to another Home City in the Timekeeping Mode.

- For information about configuring timekeeping settings, see "To configure home time settings".

To search for a city code

In the World Time Mode, press the **(D)** button.

- This scrolls westward through the available city codes. A short while after a city code appears, the display will change to show the current time in that city.
- Holding down the **(D)** button scrolls at high speed.



- Pressing the **(A)** button in the World Time Mode displays the city code of the currently selected city for about two seconds.
- Selecting a time zone that does not have a city code displays the GMT time differential for that zone.

Using Summer Time (DST)

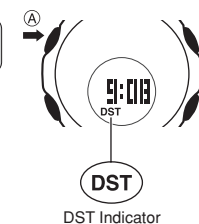
Summer time, or Daylight Saving Time (DST) as it is known in some countries, calls for setting clocks ahead one hour during the summer season. Note that the use of summer time depends on the country and even the local area.

To turn summer time on or off

1. In the World Time Mode, use the **(D)** button to display the screen for the city code whose summer time setting you want to change.

2. Hold down the **(A)** button for about two seconds.

- This toggles summer time on and off.
- The "DST" indicator appears on the display and timekeeping is advanced by one hour when summer time is turned on.
- You can turn summer time on or off independently for each World Time Mode city. Note, however, that you cannot turn on summer time for the "GMT" city code.



World Time City Code List

City Code	GMT Differential	City Name	City Code	GMT Differential	City Name
---	-11		JRS	+2	Jerusalem
HNL	-10	Honolulu	JED	+3	Jeddah
ANC	-9	Anchorage	THR	+3.5	Teheran
LAX	-8	Los Angeles	DXB	+4	Dubai
DEN	-7	Denver	KBL	+4.5	Kabul
CHI	-6	Chicago	KHI	+5	Karachi
NYC	-5	New York	DEL	+5.5	Delhi
CCS	-4	Caracas	DAC	+6	Dakar
RIO	-3	Rio de Janeiro	RGN	+6.5	Yangon
---	-2		BKK	+7	Bangkok
---	-1		HKG	+8	Hong Kong
GMT	+0	Greenwich Mean Time	SEL	+9	Seoul
LON	+0	London	TYO	+9	Tokyo
PAR	+1	Paris	ADL	+9.5	Adelaide
BER	+1	Berlin	SYD	+10	Sydney
ATH	+2	Athens	NOU	+11	Noumea
CAI	+2	Cairo	WLG	+12	Wellington

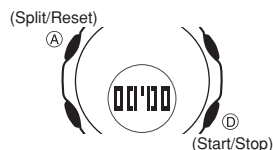
- The contents of the above table are current as of December 2003.
- Time differentials in the above table are in accordance with Universal Time Coordinated (UTC).

Stopwatch Mode

The stopwatch measures elapsed time in units of 1/100 second up to 59 minutes, 59.99 seconds (60 minutes total). When the maximum limit is reached, the elapsed time automatically returns to zero and timing continues from there.

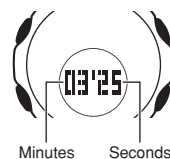
To perform elapsed time measurement

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

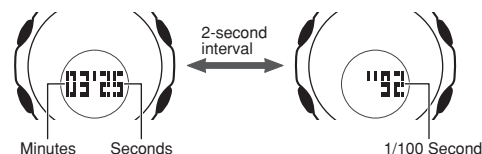


Stopwatch Mode Display Screens

- **Elapsed Time Screen**
The display shows the minutes and seconds.



- **Paused Elapsed Time Measurement Screen**
When elapsed time measurement is paused, the display alternates between a minute/second screen and a 1/100 second screen at 2-second intervals.



Elapsed Time Measurement



Pressing the **(A)** button while timing is stopped resets the stopwatch to all zeros.

Cumulative Time Measurement

Pressing the **(D)** button to restart the stopwatch without resetting it to all zeros causes the elapsed time measurement to resume from where it was last stopped.

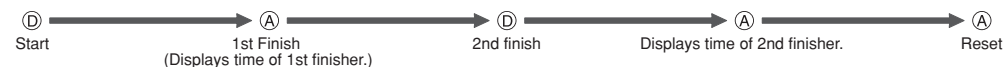
Split Time Measurement



Pressing the **(A)** button while timing is being performed displays the split time screen, but timing continues internally.

- Changing to another mode while a split time is displayed clears the split time operation.

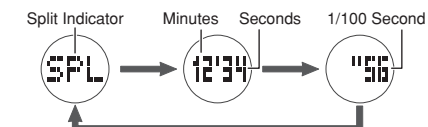
1st and 2nd Place Finishers



Pressing the **(D)** button while the split time screen is on the display stops elapsed time measurement, and leaves the split time screen on the display. Press the **(A)** button to exit the split time screen and display the elapsed time when the measurement was stopped.

Split Time Screen

The split time screen cycles alternately cycle through the split indicator, a minute/second screen, and a 1/100 second screen.



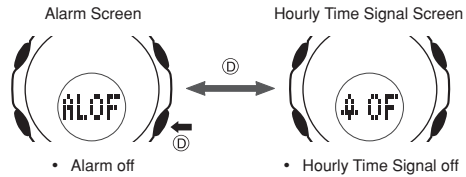
Using the Alarms and Hourly Time Signal

You can set the daily alarms in 1-minute increments. The watch beeps for 10 seconds when the current time in the Timekeeping Mode reaches the alarm time you set. The Hourly Time signal causes the watch to beep every hour on the hour.

To display the alarm screen

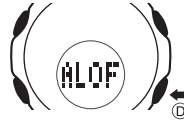
In the Alarm Mode, press the **D** button to toggle the display between the alarm screen and the Hourly Time Signal screen.

When you enter the Alarm Mode, the screen that was displayed when you last exited the mode appears first.



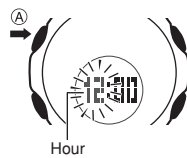
To set the alarm time

1. In the Alarm Mode, press the **D** button to display the alarm screen.

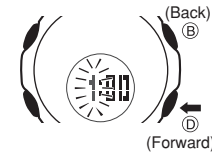


2. Hold down the **A** button for about two seconds.

- This will cause the hour digits of the displayed alarm time to flash.
- Displaying the setting screen automatically turns on the alarm.

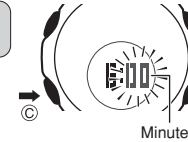


3. Use the **D** (+) and **B** (-) buttons to change the hour setting.

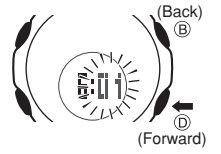


- Holding down either button changes the setting at high speed.
- When setting the hour, make sure you specify AM (no indicator) or PM (P) correctly when using 12-hour timekeeping, or that you specify the correct 24-hour time.
- The same 12-hour/24-hour format you select for the Timekeeping Mode home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

4. Press the **C** button to select the minute setting.



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



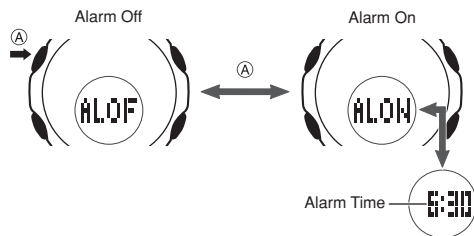
6. When the setting is the way you want, press the **A** button.

- 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 turn the alarm on or off

1. In the Alarm Mode, use the **D** button to display the alarm screen.

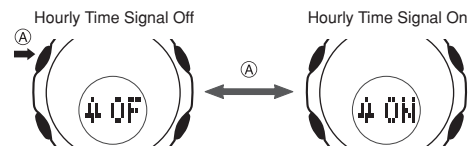
2. Press the **A** button to toggle the alarm on ("ALON" displayed) or off ("ALOF" displayed).



To turn the hourly time signal on or off

1. In the Alarm Mode, use the **D** button to display the Hourly Time Signal screen.

2. Press the **A** button to toggle the Hourly Time Signal on ("4 ON") or off ("4 OF").



To stop the alarm beeper

Press any button.

To test the alarm

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

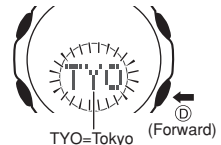
Configuring Home Time Settings

Home time settings include your Home City (the city where you will normally use the watch), the current time and date in your Home City, and other settings.

- Use the Timekeeping Mode to configure home time settings.

If you are planning to manually adjust both the digital and analog settings, be sure to adjust the digital setting first.

2. Press the **D** button to scroll through the city codes until the one you want to select is displayed.

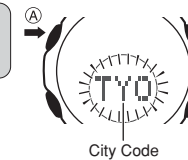


- See the "World Time City Code List" for information about city codes.
- Holding down either button scrolls at high speed.

To configure home time settings

1. In the Timekeeping Mode, hold down the **A** button for about two seconds.

- This will cause the city code currently selected as the Home City to flash on the display.



3. When the city code you want is displayed, press the **C** button.

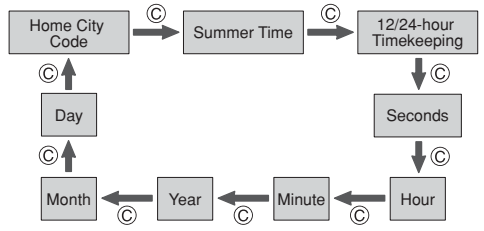
- This will display the summer time (DST) setting screen.



4. Press the **(D)** button to cycle through the available summer time (DST) settings until the one you want to select is displayed.



5. When the summer time setting is the way you want, use the **(C)** button to cycle the display through the settings shown below.



6. While the 12/24-hour timekeeping setting is flashing, press the **(D)** button to toggle between 12-hour ("12H") and 24-hour ("24H") timekeeping.



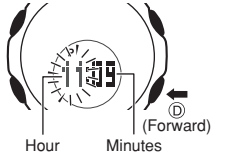
Indicates 12-hour or 24-hour timekeeping.

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



Seconds reset to 00.

8. While the hour, minutes, year, month, or day setting is flashing, use the **(D) (+)** button to change the setting.



Use the **(C)** button to select each of the settings and the **(D)** button to change them.

- Holding down the **(D)** button changes the setting 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 year in the range of 2000 to 2099. The day of the week is set automatically in accordance with the date you set.
- The watch automatically makes adjustments for leap years and month lengths.

- **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, and U.S. summer time data when **NYC, CHI, DEN, or LAX** is selected as the Home City.
- Note that "AUTO" can be selected only when **TYO, LAX, DEN, CHI, or NYC** is selected as the Home City.
- **OFF**
This setting turns off summer time and returns to normal timekeeping.
- **ON**
This setting turns on summer time and advances the current time by one hour. The DST indicator appears on the display when this setting is selected.

9. When all of the settings are the way you want, press the **(A)** 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.

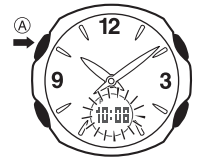
Digital-Analog Synchronization

- After adjustment of the digital time, the watch automatically adjusts its analog setting to match.
- When adjusting the analog time, the hands move clockwise.
 - Depending on how many hours different the digital and analog time settings are, it may take some time for the analog hand setting procedure to be finished.

Adjusting the Analog Time Setting

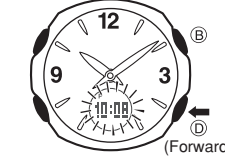
You can use the Hand Setting Mode to manually adjust the analog time when it does not match the digital time.

1. In the Hand Setting Mode, hold down the **(A)** button for about two seconds.



- This will cause the hour and minute setting of the digital time to flash on the display.

2. Use the **(D) (+)** button to adjust the hour and minute hands so they match the digital time.



- Each press of the **(D)** button moves the hands 20 seconds clockwise.
- Holding down the **(D)** button moves the hands at high speed.

High-speed Lock

- While holding down the **(D)** button to start high-speed clockwise movement of the hands, press the **(B)** button to lock the high-speed hand movement. You can then release the buttons.
- High-speed hand movement will continue until it completes a 12-hour cycle, or until you press any button to stop it.
- High-speed hand movement will also stop momentarily if an alarm starts to sound. High-speed movement will resume after the alarm stops.

3. When the setting is the way you want, press the **(A)** button.

- This exits the setting screen and automatically synchronizes the minute hand with the current seconds count.
- The display also will exit the setting screen automatically if you do not perform any operation for about two or three minutes.