Timekeeping Mode

Before using the watch...

Expose the watch to light.

Your watch runs on electrical power generated from light and stored by a chargeable battery. Long-term storage of the watch can cause the battery to run low, so be sure to expose the watch to light for some time before using it for the first time. See "Solar Charging" for more information.

Low Battery Alert

When secondary battery power is low, the second hand of the watch will start to jump at 2-second intervals to let you know that charging is required.

• See "Low Battery Alert" for more information.



Power Saving

Power Saving causes the watch to enter a sleep state automatically and stop movement of the analog hands in order to save power whenever it is left in the dark. The watch will exit the sleep state if you expose the watch to light or perform any button operation.

• Note that the watch may also enter the sleep state and stop if it is blocked from light by your sleeve.

How the sleep state works

Sleep Level 1

Sleep Level 1 is triggered whenever the watch is left in the dark for about one hour between the hours of 10 p.m. and 6 a.m.

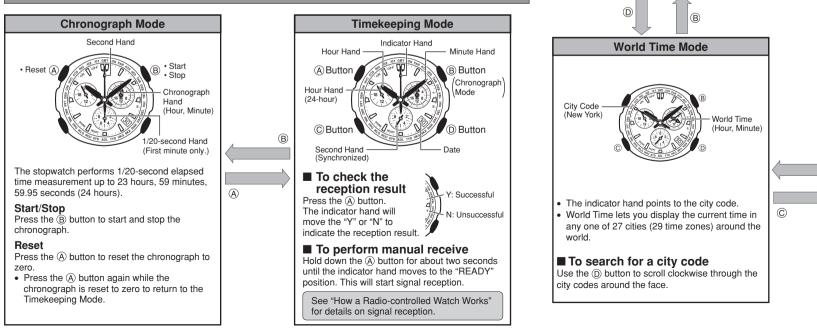
- The second hand stops.
- The hour and minute hands, and the date indicator continue to operate normally.
- Alarms continue to operate normally.

Sleep Level 2

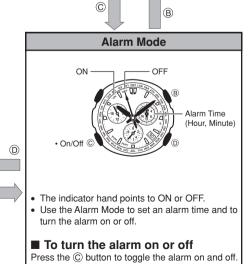
Sleep Level 2 is triggered whenever the watch is left in the dark while in Sleep Level 1 for six or seven days.

- The hour and minute hands, and the date indicator stop at their current positions.
- Auto Receive is disabled.
- Alarms are disabled.
- · Digital timekeeping functions continue to operate normally.

Modes and Indicators



You can use the button operations shown below to enter the Timekeeping Mode, World Time Mode, or Alarm Mode directly.

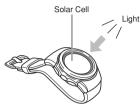


1

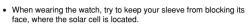
Solar Charging

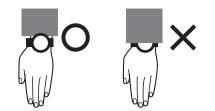
Your watch runs on electrical power generated from light and stored by a chargeable battery. To ensure stable operation, make sure that the solar cell of the watch is exposed to light as much as possible.

 Whenever you are not wearing the watch on your wrist, position it so the face (solar cell) is pointed in the direction of a source of bright light.



Leave the watch under fluorescent lighting, near a window, etc.

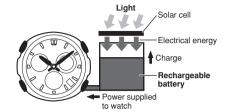




Charging efficiency is significantly reduced even if the face of the watch is only partially covered by your sleeve.

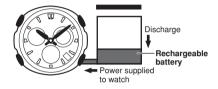
How the solar cell and battery work

When exposed to light



When not exposed to light

Charging Guide

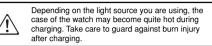


Your watch continues to operate, even when it is not exposed to light. Leaving the watch in the dark can run down its battery and cause functions to become disabled.

Charging Precautions

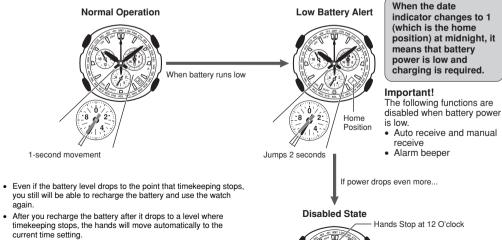
Avoid charging the watch in the following locations, and anywhere else where the watch may become very hot. • On the dashboard of an automobile parked in the sun

- Very close to an incandescent light source or other sources of heat
- · In a location exposed to direct sunlight for long periods



Low Battery Alert

When secondary battery power is low, the second hand of the watch will start to jump at 2-second intervals to let you know that charging is required.



• Try to keep the watch exposed to light as much as possible during normal use.

Required Charging Time for One Day of Operation
Based on six minutes of signal reception and 10 seconds of alarm per day.

Exposure Level (Brightness)	Approximate Exposure Time
Outdoor Sunlight (50,000 lux)	8 minutes
Sunlight through a Window (10,000 lux)	30 minutes
Overcast Daylight through a Window (5,000 lux)	48 minutes
Indoor Fluorescent Lighting (500 lux)	8 hours

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

Charge Times Required to Advance to a Higher Level

	Approximate Exposure Time		
Exposure Level (Brightness)	Until Hand Movement Restarts	Until Full Charge	
Outdoor Sunlight (50,000 lux)	1 hour	21 hours	
Sunlight through a Window (10,000 lux)	2 hours	77 hours	
Overcast Daylight through a Window (5,000 lux)	4 hours		
Indoor Fluorescent Lighting (500 lux)	35 hours		

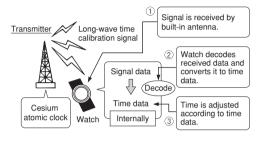
• Note that the above charging times are for reference only. Actual charging time depends on a variety of environmental factors.

The second, hour, and minute hands all stop at 12 o'clock.

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 transmitted 24 hours a day from the Mt. Otakadova transmitter (40 kHz) located in Tamura-gun. Fukushima Prefecture, and from the Mt. Hagane transmitter (60 kHz) 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.

The time data of the Japanese calibration signal (Call Sign: JJY) is maintained by the Japan Standard Time Group of the National Institute of Information and Communications Technology (NICT). Note that transmission of the standard wave may be interrupted occasionally due to maintenance. lightning etc.

For more information, visit the website of the Japan Standard Time Group of the National Institute of Information and Communications Technology (NICT) at the following URL.

http://jjy.nict.go.jp Note that the above URL is subject to change.

Receiving the Calibration Signal

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

Auto Receive

- Up to six times per day
- (Midnight, 1:00, 2:00, 3:00, 4:00, and 5:00 a.m.) · As soon as one auto receive is complete, all subsequent auto receives for that day are cancelled.
- To perform signal reception manually You initiate signal reception by pressing a button.

In the Timekeeping Mode. hold down the (A) button for about two seconds.

 The indicator hand will indicate the result of the reception, the watch will beep, and the indicator hand will move to "READY".

■ To interrupt reception

Press any button.

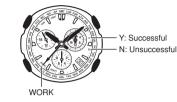
READY

At the start of the receive operation

- The indicator hand will move to "READY".
- The hour and minute hands will remain at their normal positions.
- The second hand will stop at "0".

While reception is in progress

- · The indicator hand will move to "WORK".
- · The hour and minute hands will remain at their normal positions.
- Do not move the watch while signal reception is in progress.



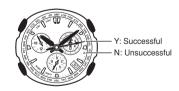
When reception is complete (Signaled when the watch beeps.)

- When signal reception is successful, the indicator hand will move to "Y". After about one or two minutes, the indicator hand will start keeping track of the newly calibrated current time seconds.
- When signal reception is unsuccessful, the indicator hand will move to "N". After about one or two minutes, the indicator hand will start keeping track of the previous (uncalibrated) current time seconds

To check the result of the last receive operation

In the Timekeeping Mode, press the (A) button.

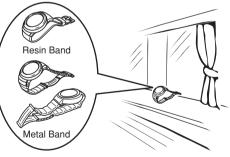
- The indicator hand will move to "Y" (if the last reception was successful) or "N" (if the last reception was unsuccessful).
- Press the (A) button to return to the Timekeeping Mode.
- The watch will also return to the Timekeeping Mode automatically if you do not perform any operation for about five seconds.



The last receive status changes each time a new time calibration signal reception operation is performed.

To position the watch for optimum reception

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



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

Time Required for Reception

Signal reception normally takes anywhere from about two to seven minutes. Under certain signal conditions however, the receive operation can take as long at 14 minutes.

Reception Ranges

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

· For information about selecting a Home City, see "Selecting Your Home City". See "World Time City Code List" for details on city codes.

Home City	Transmitter		
ТҮО, НКӨ	Either the Mt. Otakadoya signal (40 kHz) or the Mt. Hagane signal (60 kHz) • Use one of these settings for reception of the Japanese signal in Japan or Taiwan.		
LAX, DEN, CHI, NYC	 Fort Collins, Colorado signal Use one of these settings for reception of the U.S. signal in North America. 		

- · CASIO does not guarantee that the watch will be able to receive a calibration signal correctly each day.
- · Geographic contours, nearby buildings, the season, the time of day, can even make reception impossible.
- 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.





Near high-voltage lines

Among or near buildings



Inside a vehicle Next to a household appliance or office equipment (TV, speaker, fax, (automobile, train, plane, etc.)





PC, mobile phone, etc.)

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

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

Calibration Signal Reception Precautions

- Auto receive is disabled while the watch is in the Chronograph Mode.
- Operating any button while auto receive is in progress will cause the watch to beep and then exit the receive operation.
- Make sure you are within the range of the calibration signal transmitter before performing the reception operation. Remember that geographic contours, nearby buildings, the season, the time of day, can even make reception impossible even when you are within range of the transmitter.
- Proper reception may be impossible if there is something blocking the signal. If reception is unsuccessful, try again.
- This watch is designed to adjust its current time setting in accordance with the calibration signal transmitted in Japan and the United States only. Note that you will need to make your own adjustments when using this watch outside of Japan or the United States, or in any area that is outside the range of one of the receivable time calibration signal transmitters.
- When the watch is unable to adjust its time signal using the calibration signal for some reason, timekeeping accuracy is that noted in the specifications at the back of this manual.
- Strong electrostatic charge can cause timekeeping error.
- Signal reception is cancelled if an alert operation starts 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

1. The watch cannot receive the time calibration 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".
- Are you within the reception range of a transmitter? See "Reception Ranges" for information about areas where the watch can receive the signal.
- Do you have the correct Home City code selected? Remember that auto receive is not performed unless TYO (Tokyo), HKG (Hong Kong), 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 "Selecting Your Home City".
- Is the signal being transmitted? Though the time data of the Japanese calibration signal (Call Sign: JJY) is maintained by the Japan Standard Time Group of the National Institute of Information and Communications Technology (NICT), it may be interrupted sometimes for periodic maintenance work, or because of lightning or other problems.

- 2. Time calibration signal reception is successful, but the hourly time signal and current time are off slightly.
- 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 off slightly (within one second).
- 3. Time calibration signal reception is successful, but the current time setting is wrong.
- Is TYO (Tokyo) or HKG (Hong Kong) selected for your Home City? Select the correct Home City code using the procedure under
- Select the correct Home City code using the procedure under "Selecting Your Home City".

4. Cannot configure signal reception settings.

 Remember that auto receive is not performed unless TYO (Tokyo), HKG (Hong Kong), 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 "Selecting Your Home City". If you cannot receive the calibration signal or if the current time setting is incorrect after signal reception, check the current setup of the watch.

Factory Default Settings

Home City	Hong Kong
Summer Time	Off

Default Settings after Battery Goes Dead

Home City	Токуо	
Summer Time	Auto (according to signal data)	

Using the Chronograph

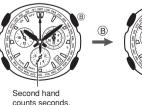
The chronograph performs 1/20-second elapsed time measurement up to 23 hours, 59 minutes, 59.95 seconds (24 hours). When the maximum limit is reached, the elapsed time returns to zero automatically and timing continues from there.

• In the Timekeeping Mode, press the (B) button once to enter to the Chronograph Mode.

Timekeeping Mode

Chronograph Mode

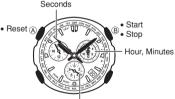
Indicator hand makes one revolution.



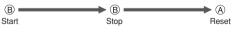
Second hand moves to "0".

• To return to the Timekeeping Mode, press the (A) button while the chronograph is reset to zero.

■ To use the chronograph Enter the Chronograph Mode to use the chronograph.







- 1/20-second timing is performed for the first minute after you start or restart an elapsed time measurement operation. The 1/20second hand also jumps to the elapsed time position when you stop an elapsed time measurement operation.
- Pressing the (A) button while an elapsed time measurement operation is in progress resets the chronograph to zero.

Cumulative Time Measurement

Pressing the (B) button to restart the chronograph without resetting it to all zeros resumes elapsed time measurement from where it was last stopped.

Using World Time

World time lets you display the current time in any one of 27 cities (29 time zones) around the world.

- Press the
 button to enter the World Time Mode.
- Pressing the
 D button in the Chronograph Mode will not enter the World Time Mode unless the chronograph is reset to zero.

World Time Mode

Currently Selected City Code



Current time in the zone where the currently selected city code is located (Hour, Minute)

Important!

- If the current time shown of the selected city code is not correct. check the current time setting of your Home City and make adjustments as necessary.
- · For information about configuring home city settings, see "Selecting Your Home City".
- Press the (B) button to return to the Timekeeping Mode.

■ To search for a city code

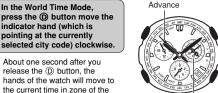
In the World Time Mode, press the (D) button move the indicator hand (which is pointing at the currently

About one second after you

indicated city code.

release the D button, the

the current time in zone of the



Indicator Hand

Movement

Current time in the zone where the currently selected city code is located (24-hour format; Hour, Minute)

Home City beep indicator

If the city code that the indicator hand moves to when you press the D button is your currently select Home City, the watch will beep.

Turning Summer Time On or Off

■ To check the current summer time on/ off setting

In the World Time Mode, press the A button.

 The second hand moves to "0" when summer time is turned on, and to 5 (between "4" and "6") when summer time is turned off. The second hand will resume

When summer time is turned on

normal operation after about

five seconds

- When you turn on summer time for a city code that supports time calibration signal reception, the watch will decide automatically whether or not to apply the summer time or standard time setting in accordance with the received signal.
- · City codes that support signal reception are TYO, HKG, NYC, CHI, DEN, LAX, ANC, and HNL.
- In the case of a city code that does not support signal reception, turning on summer time advances the current time setting by one hour



- 1. In the World Time Mode, use the D button to select the city code whose summer time setting you want to change.
- 2. Hold down the (A) button for about five seconds to toggle the summer time setting on and off.
- You can turn summer time on or off individually for each World Time city. Note, however, that you cannot change the summer time setting for the "GMT" (Greenwich Mean Time) zone.



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

Selecting Your Home City

Use the World Time Mode to specify your Home City.

Example:

To change the Home City setting from New York (NYC) to Tokyo (TYO)

In the World Time Mode, use the D button to select the city code for the city you want to use as your Home City.



Current Time in

· The watch will beep and make the current city code your

button.

Home City, and your previously selected Home City the new World Time city. Because of this, the indicator hand will move to the your previously selected Home City code

To make the currently city

hold down the (A) button as you press the D

• The watch will beep and set

code your Home City,

Important!

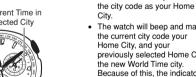
2.

If you are using the watch in Taiwan, be sure to select HKG (Hong Kong) as your Home City. Selecting another city code will make it impossible to receive the time calibration signal and cause your time setting to be off.

World Time City Code List

City Code	GMT Differential	City Name	City Code	GMT Differential	City Name
GMT	+0.0	Greenwich Mean Time	ADL	+9.5	Adelaide
LON	+0.0	London	SYD	+10.0	Sydney
PAR	+1.0	Paris	NOU	+11.0	Noumea
ATH	+2.0	Athens	WLG	+12.0	Wellington
JED	+3.0	Jeddah	PPG	-11.0	Pago Pago
THR	+3.5	Teheran	HNL	-10.0	Honolulu
DXB	+4.0	Dubai	ANC	-9.0	Anchorage
KBL	+4.5	Kabul	LAX	-8.0	Los Angeles
KHI	+5.0	Karachi	DEN	-7.0	Denver
DEL	+5.5	Delhi	CHI	-6.0	Chicago
DAC	+6.0	Dhaka	NYC	-5.0	New York
RGN	+6.5	Yangon	CCS	-4.0	Caracas
BKK	+7.0	Bangkok	RIO	-3.0	Rio de Janeiro
HKG	+8.0	Hong Kong	-2.0		
TYO	+9.0	Tokvo	-1.0		

- The contents of the above table are current as of June 2005.
- Time differentials in the above table are in accordance with Universal Time Coordinated (UTC).



TYO Selected



5

1.1

2.

CASIO

Using the Alarms

The watch beeps for 10 seconds when the Timekeeping Mode time reaches the currently set alarm time.

- The alarm will sound when the current time in your Home City matches the alarm time.
- Press the
 button to enter the Alarm Mode.
- Pressing the (C) button in the Chronograph Mode will not enter the Alarm Mode unless the chronograph is reset to zero.





· To return to the Timekeeping Mode from the Alarm Mode, press the (B) button. Note that you cannot return to the Timekeeping Mode while the watch is in the alarm setting mode (second hand pointing at "0".) In this case, press the (A) button to exit the alarm setting mode before pressing the button.



In the Alarm Mode, press the C button to toggle the alarm

■ To turn the alarm on or off

on and off.



■ To stop the alarm Pressing any button while the beeper is sounding stops it.

■ To set an alarm time Example:

To change the alarm setting from midnight to 3:00 p.m.

- In the Alarm Mode, hold down the (A) button for about five seconds.
- · The indicator hand will move to "ON", and the second hand will move to "0". This is the alarm setting mode.

Use the (D) (+) and (B) (-) buttons to change the

alarm setting in oneminute increments. · Holding down either button will cause the alarm time hands to move at high speed. Once started, highspeed movement will



Alarm time

Second Hand

3. When the setting is the way you want, press the A button to exit the alarm setting mode.



· This will exit the alarm setting mode and the second hand will resume normal operation.

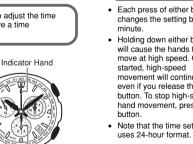
· The watch will exit the alarm setting mode automatically if you do not perform any button operation for about two or three minutes.



You can perform the following procedures to adjust the time and date when the watch is unable to receive a time calibration signal for some reason.

1. In the Timekeeping Mode hold down the A button for about five seconds.

- · The indicator hand will move to 12 o'clock, and the second hand will move to "0".
- · After the indicator hand indicates the result of the last signal reception result, it will move to the "READY" position. Keep the (A) button depressed until the indicator hand to moves to 12 o'clock.



2.

Second Hand

24-hour Hand Use the (D) (+) and (B) (-) Hour. Minute buttons to change the hour and minute setting. · Each press of either button changes the setting by one · Holding down either button will cause the hands to Date (+ move at high speed. Once movement will continue even if you release the button. To stop high-speed hand movement, press any

Hour

Minute

(+)

· Note that the time setting

3. Press the ^(C) button to advance the date setting by one day.

4. When the setting is the way you want, press the (A) button to exit setting mode.

continue even if you release

the button. To stop high-

speed hand movement.

· The alarm time uses 24-

hour timekeeping format

press any button.

- This will exit setting mode and the second hand will resume normal operation.
- Pressing (A) to restart timekeeping on a time signal on the TV or radio ensures precise setting.
- The watch will exit setting mode automatically if you do not perform any button operation for about two or three minutes.

When you are using the watch in an area that supports time calibration signal reception, it will adjust the date automatically for month lengths and leap years. If you use it in an area that does not support signal reception, you will have to make adjustments for month lengths and leap year manually.



6

CASIO.

