USER'S GUIDE 2581/2671

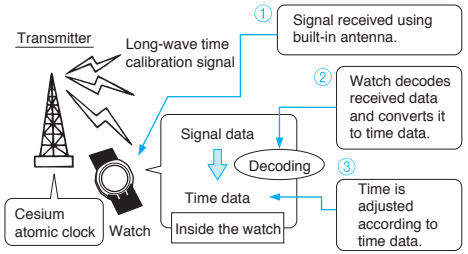
The following explanation covers the radio-controlled timekeeping function only.
For other functions, go to the download page for Module 2578,
which is the export model that has the same functions, except for radio-controlled timekeeping.

CASIO

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

Calibration Signal

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

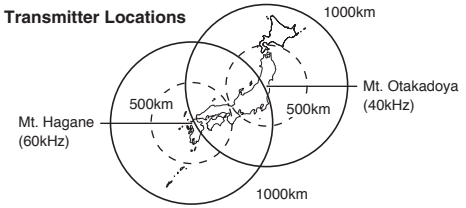
Though the calibration signal is normally transmitted 24 hours a day, transmission may be interrupted occasionally due to maintenance, lightening, etc.

Reception Range

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

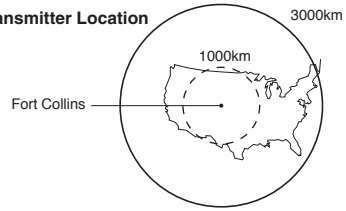
When this Home City is selected:	You can receive this signal
	Either the Mt. Otakadoya signal (40kHz) or the Mt. Hagane signal (60kHz)
	Fort Collins, Colorado signal

Transmitter Locations



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

Transmitter Location



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

Geographic contours, nearby buildings, the season, and the time of day can make reception impossible even when you are within range of the transmitter.

Best reception is possible late at night.

Location

Reception may not be possible in the locations described below. Avoid such locations when performing signal reception.

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

Among or near buildings

Near high-voltage lines

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

Next to a household appliance or office equipment (TV, speaker, fax, PC, 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

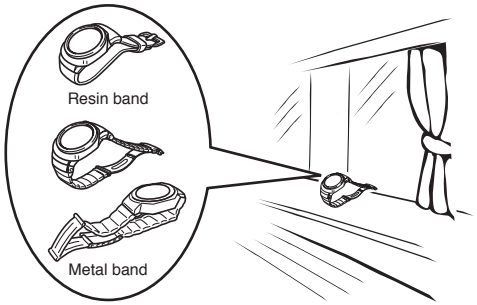
There are two methods you can use to receive the time calibration signal.

- Auto reception (Reception is performed automatically at 2:00, 4:00, and 6:00 each morning.)
- Manual reception (Reception using a button operation.)

The watch is set up for auto reception at the factory. All you need to do is to place it in a location that allows good reception each night.

Setting Up to Make Reception Easier

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



Orienting the watch so it is sideways to the transmitter makes it more likely to receive the signal.

Do not move the watch while it is receiving the calibration signal.

Time Required for Reception

Signal reception takes anywhere from about two to six minutes.

Note that when "A/T" (auto) is specified as the transmitter selection mode, signal reception can take up to 12 minutes.

*** See "Specifying the Transmitter Selection Mode in Japan" for more information.**

Triggering Reception Manually

In the Timekeeping Mode:

Hold down the B button for about two seconds.

The watch beeps and reception starts. Ongoing reception is indicated by the icon and the receive indicator. See "Receive Icon and Indicator" for more information.

To interrupt reception

Press the B button.

All other buttons besides B are disabled during signal reception.

When reception is successful

The watch adjusts its current time setting, and then beeps and displays the time and date of the adjustment.

The icon and the receive indicator remain on the display to indicate that reception was successful.

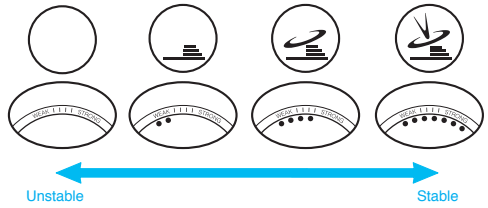
When reception fails

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

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

Receive Icon and Indicator

While reception is in progress, the icon and the receive indicator cycle from "Unstable" through "Stable" as shown below. How far they cycle 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 takes at least 10 seconds before reception starts.

Use the receive icon and 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.

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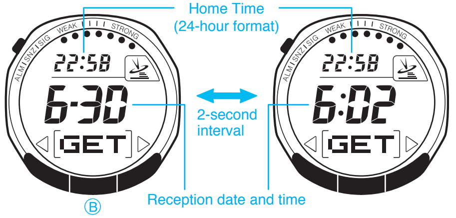
Viewing the Last Reception Date and Time

In the Timekeeping Mode:

Press the B button.

This displays the date and time that signal reception was complete and the current time and date were adjusted.
The month and day screen and hour and minute screen alternate at two-second intervals.
To return to the timekeeping screen, press the B button again.
The display also returns to the normal timekeeping screen automatically if you do not perform any operation for about one or two minutes.



Important!

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

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

If only the hour-minute-second group is received, the Timekeeping Mode date at the time of reception is recorded as the last reception date.

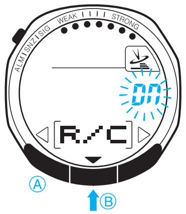
Turning Auto Reception On and Off

1. Display the setting screen.

In the Timekeeping Mode:

Use the A button to display the "SET" indicator, and then press the B button.

This causes the current setting (On or OF) to appear on the display



2. Turn auto reception on or off.

Press C or A to toggle the auto reception setting on (On) and off (OF).

3. Exit the setting screen.

Press the B button 11 times.

This exits the setting screen can causes "SET" to appear on the display. To return to the timekeeping screen, press the C button once (or the A button six times).
The display also will return to the normal timekeeping screen automatically if you do not perform any operation for about two or three minutes.

Specifying the Transmitter Selection Mode in Japan

If Tokyo (TYO) is selected as the Home City, select one of the transmitters for reception.

The initial factory default settings of the watch are (A/T) for the transmitter selection mode.

1. Display the setting screen.

In the Timekeeping Mode:

Use the A button to display the "SET" indicator, and then press the B button.

This causes the current auto reception setting (On or OF) to appear on the display

2. Display the transmitter selection mode setting screen.

Press the B button.

3. Select the transmitter selection mode you want.

Use C and A cycle through the settings until the one you want is displayed.

*** A/T** With this setting, the watch automatically selects either the Mt. Otakadoya signal (40kHz) or the Mt. Hagane signal (60kHz), whichever is strongest. * The frequency first used by the watch is the one that was last successful.
*** JPN 40** With this setting, the watch always receives the Mt. Otakadoya signal (40kHz).
*** JPN 60** With this setting, the watch always receives the Mt. Hagane signal (60kHz).

4. Exit the setting screen.

Press the B button 10 times.

This exits the setting screen can causes "SET" to appear on the display. To return to the timekeeping screen, press the C button once (or the A button six times).
The display also will return to the normal timekeeping screen automatically if you do not perform any operation for about two or three minutes.

Calibration Signal Reception Precautions

Auto reception can be performed while the watch is in the Timekeeping Mode or World Time Mode.
Operating any button while auto reception is in progress will cause the watch to beep and then exit the receive operation.
Make sure you are within the range of the calibration signal transmitter before performing the receive operation. Remember that geographic contours, nearby buildings, the season, and the time of day can 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 signals transmitted in Japan and the United States only. Note that you will need to make your own adjustments when using this watch outside of Japan or the United States, or in any area that is outside the range of one of the receivable time calibration signal transmitters.
When the watch is unable to adjust its time signal using the calibration signal for some reason, timekeeping accuracy is within ±15 seconds per month.
Strong electrostatic charge can cause timekeeping error
Signal reception is cancelled if an alarm starts to sound while it is being performed.
The watch's automatic calendar shows dates up to the year 2039. Attempting a receive operation after that causes an error

Troubleshooting

Cannot perform manual reception.

Possible Cause:	The watch is not in the Timekeeping Mode or World Time Mode. The Home City is set to a city other than **TYO** (Tokyo), **NYC** (New York), **CHI** (Chicago), **DEN** (Denver), or **LAX** (Los Angeles).
Corrective Measures:	Perform manual reception while a time is being shown on the display in the Timekeeping Mode or World Time Mode only. Change Home City to **TYO** (Tokyo), **NYC** (New York), **CHI** (Chicago), **DEN** (Denver), or **LAX** (Los Angeles).

The icon is not displayed even though auto reception is turned on.

Possible Cause:	A single receive operation was not successful. Both the hour-minute-second group and year-month-day group were not received. The watch is not in the Timekeeping Mode or World Time Mode when an auto reception time is reached. You performed manual reception, which clears the icon from the display
Corrective Measures:	Check to make sure the watch is in a location where it can receive the signal. Place the watch in a location where reception conditions are good. Make sure that the watch is in the Timekeeping Mode or World Time Mode during the auto reception times. The icon disappears from the display whenever you change the current time setting manually

Time setting is incorrect following signal reception.

Possible Cause:	Summer time is turned on or the wrong Home City is selected.
Corrective Measures:	Turn off summer time so the DST indicator is not on the display Configure the watch for the correct DST setting and Home City setting.

If you cannot receive the calibration signal or if the current time setting is incorrect after signal reception, check the current setup of the following settings. The following are the watch's initial default settings, which are configured automatically whenever you have the battery of the watch replaced.

Auto Receipt	R/C ON	On
Transmitter	A/T	Auto Japan transmitter select (40kHz/ 60kHz)
Home City	TYO	Tokyo
Summer Time	DST A	Auto (according to signal data)