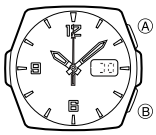
Operation Guide 4304 4305

CASIO

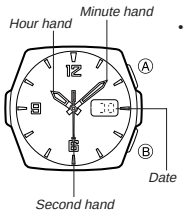
Getting Acquainted

Congratulations upon your selection of this CASIO watch. To get the most out of your purchase, be sure to read this manual carefully and keep it on hand for later reference when necessary.



Before using the watch for the first time...
Some watches are sent from the factory with timekeeping stopped, and the second hand at 12 o'clock. Press the Ⓐ button to start the second hand.

About This Manual



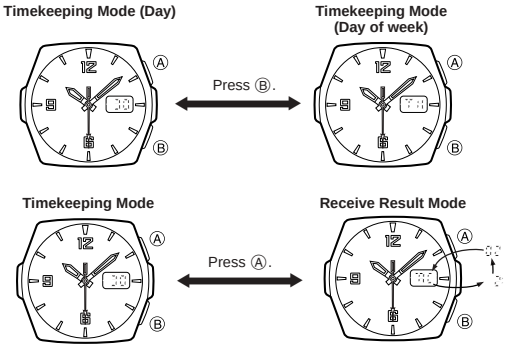
- Button operations are indicated using the letters shown in the illustration.
- Each section of this manual provides you with the information you need to perform operations in each mode. Further details and technical information can be found in the "Reference" section.

General Guide

- This watch is designed so the function of a button is executed when you release the button, not when you press it.
- Use Ⓐ and Ⓑ to change from mode to mode as shown below.

Timekeeping Mode (Day) → Press Ⓑ. → **Timekeeping Mode (Day of week)**

Timekeeping Mode → Press Ⓐ. → **Receive Result Mode**



Radio-controlled Timekeeping

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

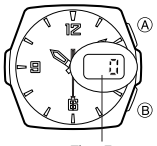
- This watch is designed to pick up the time calibration signal transmitted in Germany (Mainflingen), England (Rugby), the United States (Fort Collins) and the time calibration signals transmitted in Japan.

Current Time Setting

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

- The first thing you should do after purchasing this watch is to specify your Home Time Zone, which is the time zone where you will normally use the watch. For more information, see "To specify your Home Time Zone" below.
- When using the watch outside the range of the time signal transmitters, you will have to adjust the current time setting manually as required. See "Timekeeping" for more information about manual time settings.
- The U.S. time calibration signal can be picked up by the watch while in North America.
  * The term "North America" in this manual refers to the area that consists of Canada, the continental United States, and Mexico.

To specify your Home Time Zone



1. In the Timekeeping Mode, hold down Ⓑ for about five seconds until the currently selected Time Zone appears on the display. This is the setting mode.
   - The GMT differential value indicates the time difference in hours between Greenwich Mean Time and the currently selected time zone.
2. Press Ⓐ to select the time zone you want to use as your Home Time Zone.
   0 (GMT 0) : London
   +1 (GMT+ 1) : Paris, Berlin, Milan, Rome, Amsterdam, Hamburg, Frankfurt, Vienna, Barcelona, Madrid
   +2 (GMT+ 2) : Athens
   +9 (GMT+ 9) : All cities in Japan

E (GMT–5) : New York, Detroit, Miami, Boston, Montreal
C (GMT–6) : Chicago, Houston, Dallas/Fort Worth, New Orleans, Winnipeg, Mexico City
M (GMT–7): Denver, El Paso, Edmonton, Culiacan
P (GMT–8) : Los Angeles, San Francisco, Las Vegas, Seattle/Tacoma, Vancouver, Tijuana

3. Press Ⓑ ten times to exit the setting mode.

- The watch will also return to the Timekeeping Mode if you do not perform any operation for about three minutes.
- Normally, your watch should show the correct time as soon as you exit the Home Time Zone setting screen. If it does not, it should adjust automatically after the next auto receive operation (in the middle of the night). You can also perform manual receive or you can set the time manually.
- Even if the time calibration signal is received correctly, there are some times when the analog hands may not indicate the correct time. If this happens, use the procedures under "Adjusting the Home Positions" to check the home positions of the hands, and make adjustments as required.
- The watch will receive the time calibration signal automatically from the applicable transmitter (in the middle of the night) and update its settings accordingly. For information about the relationship between time zones (GMT differential values) and transmitters, see "Transmitters".
- See the maps under "Reception Ranges" for information about the reception ranges of the watch.
- You can disable time signal reception, if you want. See "To set the time and date manually" for more information.

Time Calibration Signal Reception

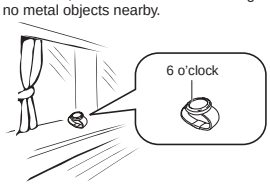
There are two different methods you can use to receive the time calibration signal: auto receive and manual receive.

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

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

Important!

- When getting ready to receive the time calibration signal, position the watch as shown in the nearby illustration, with its 6 o'clock side facing towards a window. Make sure there are no metal objects nearby.



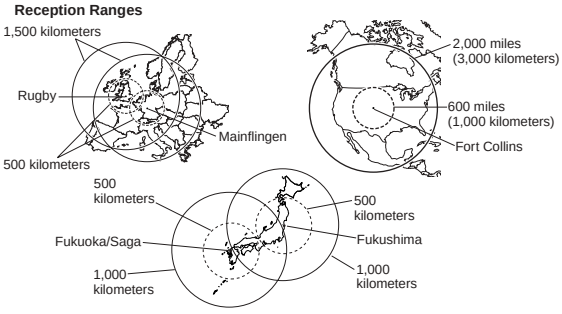
- The watch should not be facing the wrong way.
- Proper signal reception can be difficult or even impossible under the conditions listed below.

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

- Signal reception is normally better at night than during the day.
- Time calibration signal reception takes from two to seven minutes, but in some cases it can take as long as ten minutes. Take care that you do not perform any button operations or move the watch during this time.
- The time calibration signal the watch will attempt to pick up depends on its current Home City code setting as shown below.

Home City Code	Transmitter	Frequency
GMT 0	Rugby (England)	60.0 kHz
GMT+1, GMT+2	Mainflingen (Germany)	77.5 kHz
GMT+ 9	Fukushima (Japan)	40.0 kHz
	Fukuoka/Saga (Japan)	60.0 kHz
E(GMT–5), C(GMT–6), M(GMT–7), P(GMT–8)	Fort Collins, Colorado (the United States)	60.0 kHz

Reception Ranges



- Under good reception conditions, signal reception is possible within a radius of about 1,500 kilometers (930 miles) from the Mainflingen (Germany) or Rugby (England) transmitter.
- At distances further than about 500 kilometers (310 miles) from the Mainflingen (Germany) or Rugby (England) transmitter, signal reception may not be possible during certain times of year or times of day. Radio interferance may also cause problems with reception.

- Under good reception conditions, signal reception is possible within a radius of about 2,000 miles (3,000 kilometers) from the Fort Collins (the United States) transmitter.
- At distances further than about 600 miles (1,000 kilometers) from the Fort Collins (the United States) transmitter, signal reception may not be possible during certain times of year or times of day. Radio interferance may also cause problems with reception.
- Under good reception conditions, signal reception is possible within a radius of about 1,000 kilometers (600 miles) from the Fukushima and Fukuoka/ Saga (Japan) transmitter.
- At distances further than about 500 kilometers (310 miles) from the Fukushima and Fukuoka/ Saga (Japan) transmitter, signal reception may not be possible during certain times of year or times of day. Radio interferance may also cause problems with reception.
- See the information under "Signal Reception Troubleshooting" if you experience problems with time calibration signal reception.

About Auto Receive

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

Your Home Time Zone		Auto Receive Start Times				
		1	2	3	4	5
GMT 0	Standard Time	1:00 am	2:00 am	3:00 am	4:00 am	5:00 am
	Daylight Saving Time	2:00 am	3:00 am	4:00 am	5:00 am	Midnight
GMT +1	Standard Time	2:00 am	3:00 am	4:00 am	5:00 am	Midnight
	Daylight Saving Time	3:00 am	4:00 am	5:00 am	Midnight	1:00 am next day
GMT +2	Standard Time	3:00 am	4:00 am	5:00 am	Midnight	1:00 am next day
	Daylight Saving Time	4:00 am	5:00 am	Midnight	1:00 am next day	2:00 am next day
GMT +9	Standard Time	Midnight	1:00 am	2:00 am	3:00 am	4:00 am
E(GMT –5) C(GMT –6) M(GMT–7) P(GMT–8)	Standard Time and Daylight Saving Time	Midnight	1:00 am	2:00 am	3:00 am	4:00 am

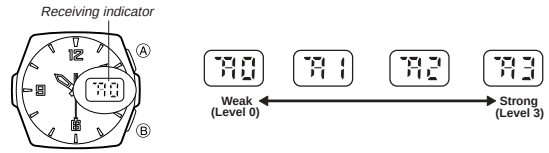
Note

- When a calibration time is reached, the watch will automatically receive the calibration signal only if it is in either the Timekeeping Mode or Receive Result Mode. It is not performed if a calibration time is reached while you are configuring settings.
- Auto receipt of the calibration signal is designed to be performed early in the morning, while you sleep (provided that the Timekeeping Mode time is set correctly). Before going to bed for the night, remove the watch from your wrist, and put it in a location where it can receive the signal easily.
- The watch receives the calibration signal for two to ten minutes everyday when the time in the Timekeeping Mode reaches each of the calibration times. Do not perform any button operation within ten minutes before or after any one of the calibration times. Doing so can interfere with correct calibration.
- Remember that reception of the calibration signal depends on the current time in the Timekeeping Mode. The receive operation will be performed whenever the display shows any one of the calibration times, regardless of whether or not the displayed time is actually the correct time.

About the Receiving Indicator

The receiving 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.

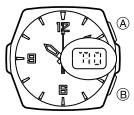
The receiving indicator is displayed while an auto or manual receive operation is in progress.



- Use the receiving indicator as a guide for checking signal strength and for finding the best location for the watch during signal reception.

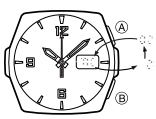
To perform manual receive

Receiving

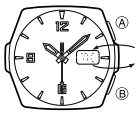


1. Place the watch on a stable surface so its 6 o'clock side is facing towards a window.
2. Hold down Ⓐ for about two seconds until starts to flash on the display.
   - The second hand will move to 12 o'clock and stay there while actual reception is in progress.
   - The hour and minute hands continue to keep time normally.
   - Time calibration signal reception takes from two to ten minutes. Take care that you do not perform any button operations or move the watch during this time.
   - When receive is successful, the display shows the time that receive was successful.
   - The watch will enter the Timekeeping Mode if you press Ⓐ or if you do not perform any button operation for about three minutes.

Receive successful



Receive failed



- When receive is unsuccessful, the display shows "- - ". The watch will enter the Timekeeping Mode without changing the time setting if you press Ⓐ or if you do not perform any button operation for about three minutes.

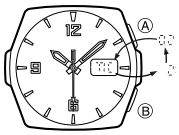
Note

- To interrupt a receive operation and return to the Timekeeping Mode, press Ⓐ.

Viewing the Latest Signal Reception Results

You can use the Receive Result Mode to check if signal reception was performed correctly.

To check the latest signal reception results



Enter the Receive Result Mode.

- When receive is successful, the display shows the time that receive was successful. When receive is not successful, the display shows "- - ".
- To return to the Timekeeping Mode, press Ⓐ.
- If you adjust the time or date setting manually, The display shows "- - ".

Signal Reception Troubleshooting

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

Problem	Probable Cause	What you should do
Cannot perform manual receive.	• The watch is not in the Timekeeping Mode or Receive Result Mode. • Your current Home Time Zone setting is not one of the following: **0**, **+1**, **+2**, **+9, E (GMT–5), C (GMT–6), M (GMT–7) or P (GMT–8)**	• Enter the Timekeeping Mode and try again. • Select **0**, **+1**, **+2**, **+9, E (GMT –5), C (GMT–6), M (GMT–7) or P (GMT–8)** as your Home Time Zone.
Auto receive is not being performed successfully ("- - " displayed).	• You changed the time setting manually. • You were adjusting the watch settings when the auto receive start times were reached. • You pressed Ⓐ while signal receive was in progress.	• Perform manual signal receive or wait until the next auto signal receive operation is performed. • Check to make sure the watch is in a location where it can receive the signal.
Time setting is incorrect following signal reception.	• The Home Time Zone setting is not correct for the area where you are using the watch. • The home position of the hands is off.	• Select the correct Home Time Zone. • Enter the Home Position Adjustment Mode and adjust the home position.

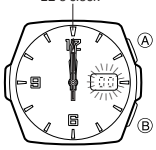
- For further information, see "Important!" under "Time Calibration Signal Reception" and "Radio-controlled Timekeeping Precautions".

Adjusting the Home Positions

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

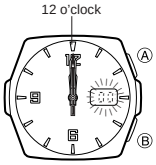
To adjust the home positions

12 o'clock



Correct second hand home position

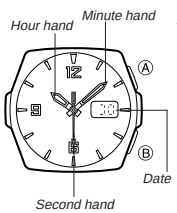
12 o'clock



Correct hour and minute hand home position

1. While in the Timekeeping Mode, hold down Ⓐ and Ⓑ for about five seconds.
   - The analog hands do not keep time during home position adjustment.
2. Check the position of the second hand.
   - The second hand home position is correct if it is pointing at 12 o'clock.
   - If the second hand is not pointing at 12 o'clock, it means that its home position is off. If this happens, press Ⓐ to move the second hand clockwise in one-second steps, until it points at 12 o'clock.
   - Holding down Ⓐ for more than two seconds causes the hands to move at high speed. Pressing Ⓐ again stops the hands.
3. Press Ⓑ to advance to hour and minute hand home position adjustment.
   - If current hour and minute hand alignment is correct, they will both move to 12 o'clock.
4. Check the position of the hour and minute hands.
   - If the hour and minute hands are not pointing at 12 o'clock, it means that their home position is off. If this happens, press Ⓐ to move the hour and minute hands clockwise in 20-second steps, until they point at 12 o'clock.
   - Holding down Ⓐ for more than two seconds causes the hands to move at high speed. Pressing Ⓐ again stops the hands.
5. Pressing Ⓑ exits the home position adjustment mode and enters the Timekeeping Mode.

Timekeeping



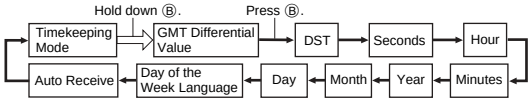
Use the Timekeeping Mode to set and view the current time and date. This section also explains how to set the current date and time manually.

- If you become confused and lose your way during the following procedures, simply put the watch down and do not perform any button operation for about three minutes. This will cause the watch to enter the Timekeeping Mode (indicated by normal one-second movement of the second hand) automatically. After that, you can try performing the manual setting procedure again from the beginning.
- All of the operations in this section are performed in the Timekeeping Mode.

To set the time and date manually

12 o'clock

1. In the Timekeeping Mode, hold down Ⓑ for about five seconds.
   - This will cause the second hand to move to 12 o'clock.
   - The hour and minute hands do not move in the setting mode.
2. Press Ⓑ to cycle through settings in the sequence shown below.



3. Select the setting you want to change, and then use Ⓐ to change it as shown below.

Screen	To do this:	Do this:
	Cycle through time zones	Press Ⓐ.
	Toggle between Daylight Saving Time ( ), Standard Time ( ), or Auto DST ( )	Press Ⓐ.
	Reset the seconds to	Press Ⓐ.
	Change the hour	Press Ⓐ.
	Change the minutes	Press Ⓐ.
	Change the year	Press Ⓐ.
	Change the month	Press Ⓐ.
	Change the day	Press Ⓐ.
	Cycle through day of the week languages : English : Spanish : French : German : Italian	Press Ⓐ.
	Toggle signal auto receive on ( ) and off ( ) (This setting is possible only for time zones that support time calibration signal reception.)	Press Ⓐ.

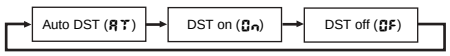
- When setting the day, the watch automatically will skip days (**30** and **31**) that are not included in the currently selected month. If you can't select **30** or **31** when you want to, check to make sure that the proper month is selected.

4. Press Ⓑ to exit the setting mode.
- This will cause the hands to move to the current time, and resume normal movement.

Note
- For more information, see "Daylight Saving Time (DST)" below.
- The auto receive setting is used for time calibration signal reception only. See "About Auto Receive" for details.

Daylight Saving Time (DST)
Daylight Saving Time (summer time) advances the time setting by one hour from Standard Time. Remember that not all countries or even local areas use Daylight Saving Time.
The time calibration signals transmitted from Mainflingen (Germany), Rugby (England), or Fort Collins (the United States) include both Standard Time and DST data. When the Auto DST setting is turned on, the watch switches between Standard Time and DST (summer time) automatically in accordance with the signals.
- The time calibration signals transmitted from Fukushima and Fukuoka/Saga (Japan) do not include summer time data.
- The default DST setting is Auto DST ( ) whenever you select 0, +1, +2, E (GMT –5), C (GMT–6), M (GMT–7), or P (GMT–8) as your Home City code.
- If you experience problems receiving the time calibration signal in your area, it is probably best to switch between Standard Time and Daylight Saving Time (summer time) manually.

To change the Daylight Saving Time (summer time) setting
1. In the Timekeeping Mode, hold down Ⓑ until the currently selected Time Zone appears on the display. This is the setting mode.
2. Press Ⓑ and the DST setting screen appears.
3. Use Ⓐ to cycle through the DST settings in the sequence shown below.



4. When the setting you want is selected, press Ⓑ nine times to exit the setting screen.

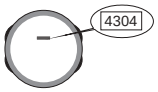
Reference
This section contains more detailed and technical information about watch operation. It also contains important precautions and notes about the various features and functions of this watch.

Auto Return Features
- If you leave the watch in the Home Position Adjustment Mode for about three minutes without performing any operation, it returns to the Timekeeping Mode automatically.
- If you do not perform any operation for about three minutes while a setting mode is selected, the watch will exit the setting mode automatically.

Button Operation Timing
This watch is designed so the function of a button is executed when you release the button, not when you press it.

Scrolling
- The Ⓐ button is used to change the hand setting in various setting modes. In most cases, holding down the Ⓐ button will start high-speed movement of the applicable hand(s).
- High-speed movement of the hands will continue until it completes a 12-hour cycle, or until you press Ⓐ button to stop it.

Radio-controlled Timekeeping Precautions
- Strong electrostatic charge can result in the wrong time being set.
- Even when the watch is within the reception range of the transmitter, signal reception will be impossible if the signal is blocked by mountains or other geological formations between the watch and signal source.
- Signal reception is affected by weather, atmospheric conditions, and seasonal changes.
- The time calibration signal bounces off the ionosphere. Because of this, such factors as changes in the reflectivity of the ionosphere, as well as movement of the ionosphere to higher altitudes due to seasonal atmospheric changes or the time of day may change the reception range of the signal and make reception temporarily impossible.
- Even if the time calibration signal is received properly, certain conditions can cause the time setting to be off by up to one second.
- The current time setting in accordance with the time calibration signal takes priority over any time settings you make manually.
- The watch is designed to update the date and day of the week automatically for the period January 1, 2001 to December 31, 2098. Setting of the date by the time calibration signal cannot be performed starting from January 1, 2099.
- This watch can receive signals that differentiate between leap years and non-leap years.
- If you are in an area where proper time calibration signal reception is impossible, the watch keeps time within ±20 seconds a month at normal temperature.
- If you have problems with proper time calibration signal reception or if the time setting is wrong after signal reception, check your Home Time Zone (GMT differential) setting.
  The following are the initial factory defaults for this setting.
  Module 4304: GMT +1.0
  Module 4305: GMT 0.0



- To find out the module number of your watch, look at its back cover. The Module number (4304 or 4305) is engraved inside the box on the back cover.

Transmitters
The time calibration signal received by this watch depends on the currently selected home time zone.
- When a U.S. time zone is selected, the watch receives the time calibration signal transmitted from the United States (Fort Collins).
- When a Japanese time zone is selected, the watch receives the time calibration signal transmitted from the Japan (Fukushima and Fukuoka/Saga).
- When a European time zone is selected, the watch receives the time calibration signals transmitted from Germany (Mainflingen) and England (Rugby).
  The following tables show the reception priority for the European signals.

Module 4304

In this case:	The watch does this:
The first signal search operation after factory default settings are in effect.	1. Checks the Mainflingen signal first. 2. If the Mainflingen signal cannot be received, checks the Rugby signal.
The first signal search operation after the Home Time Zone has been changed.	1. Checks the Rugby signal first. 2. If the Rugby signal cannot be received, checks the Mainflingen signal.

Module 4305

In this case:	The watch does this:
The first signal search operation after factory default settings are in effect.	1. Checks the Rugby signal first. 2. If the Rugby signal cannot be received, checks the Mainflingen signal.
The first signal search operation after the Home Time Zone has been changed.	1. Checks the Rugby signal first. 2. If the Rugby signal cannot be received, checks the Mainflingen signal.

Timekeeping
- The year can be set in the range of 2001 to 2098.
- The watch's built-in full automatic calendar makes allowances for different month lengths and leap years. Once you set the date, there should be no reason to change it except after you have the watch's battery replaced.
- The current time for all time zones in the Timekeeping Mode is calculated in accordance with the Greenwich Mean Time (GMT) differential of each zone, based on your Home Time Zone time setting.
- GMT differential is calculated by this watch based on Universal Time Coordinated (UTC*) data.
  * UTC is the world-wide scientific standard of timekeeping. It is based upon carefully maintained atomic (cesium) clocks that keep time accurately to within microseconds. Leap seconds are added or subtracted as necessary to keep UTC in sync with the Earth's rotation. The reference point for UTC is Greenwich, England.

Time Zone Table

Display Indicator *1	GMT Differential	Major cities in same time zone (Letters in parentheses are city codes.*1)
	–11.0	Pago Pago (PPG)
	–10.0	Honolulu (HNL), Papeete
	–09.0	Anchorage (ANC), Nome
	–08.0	Los Angeles (LAX), San Francisco, Las Vegas, Vancouver, Seattle/Tacoma, Dawson City
	–07.0	Denver (DEN), El Paso, Edmonton
	–06.0	Chicago (CHI), Houston, Dallas/Fort Worth, New Orleans, Mexico City, Winnipeg
	–05.0	New York (NYC), Montreal, Detroit, Miami, Boston, Panama City, Havana, Lima, Bogota
	–04.0	Caracas (CCS), La Paz, Santiago, Port Of Spain
	–03.0	Rio De Janeiro (RIO), Sao Paulo, Buenos Aires, Brasilia, Montevideo
	–02.0	
	–01.0	Praia (RAI)
	+00.0	London (LON), Dublin, Lisbon, Casablanca, Dakar, Abidjan
	+01.0	Paris (PAR), Milan, Rome, Madrid, Amsterdam, Algiers, Hamburg, Berlin (BER), Frankfurt, Vienna, Stockholm
	+02.0	Cairo (CAI), Jerusalem (JRS), Helsinki, Istanbul, Beirut, Damascus, Cape Town, Athens
	+03.0	Jeddah (JED), Kuwait, Riyadh, Aden, Addis Ababa, Nairobi, Moscow
	+04.0	Dubai (DXB), Abu Dhabi, Muscat
	+05.0	Karachi (KHI), Male
	+06.0	Dhaka (DAC), Colombo
	+07.0	Bangkok (BKK), Jakarta, Phnom Penh, Hanoi, Vientiane
	+08.0	Hong Kong (HKG), Singapore, Kuala Lumpur, Beijing, Taipei, Manila, Perth, Ulaanbaatar
	+09.0	Tokyo (TYO), Seoul, Pyongyang
	+10.0	Sydney (SYD), Melbourne, Guam, Rabaul
	+11.0	Noumea (NOU), Port Vila
	+12.0	Wellington (WLG), Christchurch, Nadi, Nauru Island

- Based on data as of December 2004.

*1 Display indicators and city codes are marked on the back cover of the watch.

Days of the Week

	English	Spanish	French	German	Italian
Sunday	SU	DO	DI	SO	DO
Monday	MO	LU	LU	MO	LU
Tuesday	TU	MA	MA	DI	MA
Wednesday	WE	MI	ME	MI	ME
Thursday	TH	JU	JE	DO	GI
Friday	FR	VI	VE	FR	VE
Saturday	SA	SA	SA	SA	SA