

Operation Guide 5424

Congratulations upon your selection of this CASIO watch.

• Note that the product illustrations in this manual are intended for reference only, and so the actual product may appear somewhat different than depicted by an illustration.

This watch does not have a city code that corresponds to the UTC offset of -3.5 hours. Because of this, the radio-controlled atomic timekeeping function will not display the correct time for Newfoundland, Canada.

Note that CASIO COMPUTER CO., LTD. assumes no responsibility for any damage or loss suffered by you or any third party arising through the use of your watch or its malfunction.

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About This Manual



Operations are performed using the watch's crown, and the three buttons indicated by the letters (A), (B) and (C) in this manual.

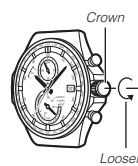
Hands and Indicators

- 1 Hour Hand
- 2 Second Hand
- 3 Minute Hand
- 4 Upper Dial Hand: Indicates a time, in 24-hour format, depending on the current mode.
- 5 Lower Dial Hand: Indicates the current mode.
- 6 Day Indicator

This User's Guide uses numbers shown above to identify watch hands and indicator.

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Using the Crown



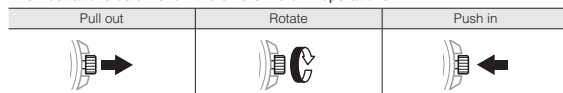
The crown of this watch is a screw in lock crown. Before using the crown, you must first rotate it towards you to loosen it. After performing crown operations, be sure to press the crown in lightly as you screw it back in.

Important!

- To maintain water resistance and avoid impact damage to the crown, be sure to screw it back in when you are not using it.

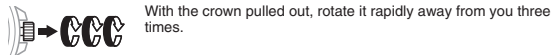
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The illustrations below show the different crown operations.



When rotating the crown to move the hands of the watch, you can use the operations described below to move the hands at high speed. There are two high-speed hand movement speeds. High-speed 2 is the fastest.

High-speed 1



With the crown pulled out, rotate it rapidly away from you three times.

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High-speed 2



After starting the High-speed 1 operation, rotate the crown rapidly away from you three more times.

High-speed Cancel



Rotate the crown towards you or press any button.

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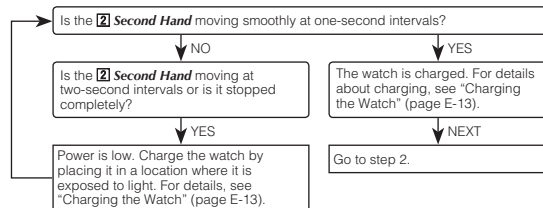
Note

- If you do not perform any operation for more than two minutes after pulling out the crown, crown operations will become disabled automatically. If this happens, push the crown back in and then pull it out again to re-enable crown operations.
- You can use high-speed hand movement when configuring time settings in the Timekeeping Mode, Alarm Mode, Countdown Timer Mode or home position adjustment.
- High-speed hand movement is forward only. There is no high-speed backward hand movement.
- Button operations become disabled after you perform a crown operation. If this happens, rotate the crown slightly. This should restore button operations.

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Things to check before using the watch

1. Hold down (C) at least two seconds to enter the Timekeeping Mode, and then observe the movement of the (2) Second Hand.



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2. Check the Home City.

Use the procedure under "To configure Home City settings" (page E-38) to configure your Home City.

Important!

Proper time calibration signal reception depends on correct Home City, time, and day settings in the Timekeeping Mode. Make sure you configure these settings correctly.

3. Set the current time.

- **To set the time using a time calibration signal**
See "To get ready for a receive operation" (page E-26).
- **To set the time manually**
See "Configuring Current Time and Day Settings Manually" (page E-43).

The watch is now ready for use.

- For details about the watch's radio controlled timekeeping feature, see "Radio Controlled Atomic Timekeeping" (page E-21).

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Charging the Watch

The face of the watch is a solar panel that generates power from light. The generated power charges a built-in rechargeable battery, which powers watch operations. The watch charges whenever it is exposed to light.

Charging Guide



Whenever you are not wearing the watch, be sure to leave it in a location where it is exposed to light.

- Best charging performance is achieved by exposing the watch to light that is as strong as possible.



When wearing the watch, makes sure that its face is not blocked from light by the sleeve of your clothing.

- The watch may enter a sleep state (page E-20) if its face is blocked by your sleeve even only partially.

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Warning!

Leaving the watch in bright light for charging can cause it to become quite hot. Take care when handling the watch to avoid burn injury. The watch can become particularly hot when exposed to the following conditions for long periods.

- On the dashboard of a car parked in direct sunlight
- Too close to an incandescent lamp
- Under direct sunlight

Important!

- Keep the watch in an area normally exposed to bright light when storing it for long periods. This helps to ensure that power does not run down.
- Storing the watch for long periods in an area where there is no light or wearing it in such a way that it is blocked from exposure to light can cause power to run down. Make sure that the watch is exposed to bright light whenever possible.

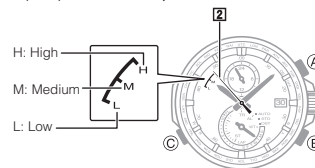
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Checking the Current Power Level

Certain functions will be disabled when the power level is low. If the power level is low, leave the watch in a location where its face (solar panel) is exposed to light.

To check the current power level

- In the Timekeeping Mode, press (B). The [2] Second Hand will move to H (High), M (Medium), or L (Low) to indicate the power level.

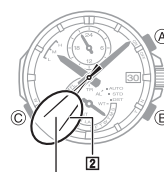


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- If about one second elapses without any operation being performed, the [2] Second Hand will then move to the latest time calibration signal receive operation result.
 - See "To check the result of the latest receive operation" (page E-31).
- Press (B) to return to regular timekeeping.
 - The watch will also return to regular timekeeping if you do not perform any operation for about 10 seconds.

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Low Power



Moves at two-second intervals.

Low power conditions are indicated by the movement of the [2] Second Hand in the Timekeeping Mode.

- If the [2] Second Hand is moving normally at one-second intervals, power is at Level 1.
- If the [2] Second Hand is moving at two-second intervals, power is at Level 2, which is quite low. Expose the watch to light as soon as possible so it can charge.

Low Battery Alert (Hand Movement and Function Status)

Level	Hand Movement	Function Status
1	Normal.	All functions enabled
2	[2] Second Hand moves at two-second intervals.	Beeper and time calibration signal reception disabled.
3	[2] Second Hand stopped.	All functions disabled

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- When power drops to Level 3, all settings (including timekeeping) will be cleared. Recharging the battery will reset all settings to their initial factory defaults.
- When the watch is at Level 3, exposing it to light for a while will cause the [2] Second Hand to move to the position of second 57. This indicates that charging has started.

Power Recovery Mode

The watch is designed to go into a power recovery mode that stops hand operation temporarily whenever power suddenly drops below a certain level due to continuous signal reception or other operations over a short period. Note that all operations are disabled while the watch is in the power recovery mode.

The hands will move to the correct positions and the watch will resume normal operation after power recovers (in about 15 minutes). Putting the watch in a location where it is exposed to light will help power to recover sooner.

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Charging Times

Exposure Level (Brightness)	Daily Operation *1	Level Change *2		
		Level 3	Level 2	Level 1
Outdoor sunlight (50,000 lux)	8 minutes	3 hours	7 hours	28 hours
Window sunlight (10,000 lux)	30 minutes	7 hours	10 hours	107 hours
Window sunlight on cloudy day (5,000 lux)	48 minutes	10 hours	116 hours	172 hours
Indoor fluorescent lighting (500 lux)	8 hours	116 hours	---	---

* 1 Approximate exposure each day to generate power for normal daily operation.
 * 2 Approximate exposure to take power up one level.

- The above times are for reference only. Actual times depend on lighting conditions.
- For details about the operating time and daily operating conditions, see the "Power Supply" section of the Specifications (page E-81).

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Power Saving

Power Saving enters a sleep state (second hand sleep or function sleep) whenever the watch is left for a certain period in an area where it is dark.

Elapsed Time in Dark	Operation
60 to 70 minutes (second hand sleep)	[2] Second Hand only stopped at 12 o'clock, all other functions enabled
6 or 7 days (function sleep)	<ul style="list-style-type: none"> All functions, including analog timekeeping, disabled Internal timekeeping maintained

- The watch will not enter a sleep state between 6:00 AM and 9:59 PM. If the watch is already in a sleep state when 6:00 AM arrives, however, it will remain there.
- The watch will not enter a sleep state while it is in the Stopwatch Mode or Countdown Timer Mode.

To recover from the sleep state

Move the watch to a well-lit area or press any button.

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If your Home City Code setting is this:	The watch can receive the signal from the transmitter located here:
LON (LONDON), PAR (PARIS), ATH (ATHENS)	Anthorn (England), Mainflingen (Germany)
HKG (HONG KONG)	Shangqiu City (China)
TYO (TOKYO)	Fukushima (Japan), Fukuoka/Saga (Japan)
HNL (HONOLULU), ANC (ANCHORAGE), LAX (LOS ANGELES), DEN (DENVER), CHI (CHICAGO), NYC (NEW YORK)	Fort Collins, Colorado (United States)

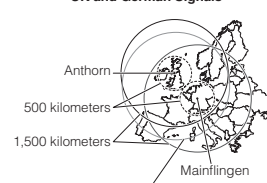
Important!

- The areas covered by **HNL (HONOLULU)** and **ANC (ANCHORAGE)** are quite far from the calibration signal transmitters, so certain conditions may cause reception problems.

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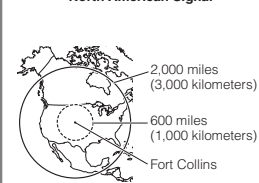
Approximate Reception Ranges

UK and German Signals



The Anthorn signal is receivable within this area.

North American Signal

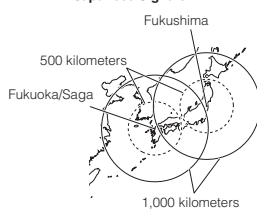


- Signal reception may not be possible at the distances noted below during certain times of the year or day. Radio interference may also cause problems with reception.
 - Mainflingen (Germany) or Anthorn (England) transmitters: 500 kilometers (310 miles)
 - Fort Collins (United States) transmitter: 600 miles (1,000 kilometers)
 - Fukushima or Fukuoka/Saga (Japan) transmitters: 500 kilometers (310 miles)
 - Shangqiu (China) transmitter: 500 kilometers (310 miles)
- As of December 2013, China does not use Daylight Saving Time (DST). If China does go to the Daylight Saving Time system in the future, some functions of this watch may no longer operate correctly.
- Using this watch in a country covered by a time calibration signal that is different from the countries it supports may result in incorrect time indication due to local application of daylight saving time (summer time), etc.

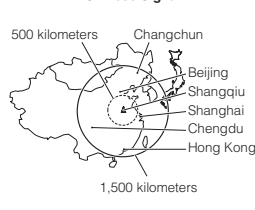
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Japanese Signals

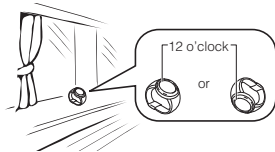


Chinese Signal



To get ready for a receive operation

- Confirm that the watch is in the Timekeeping Mode. If it isn't, hold down **[C]** for at least two seconds to enter the Timekeeping Mode.
- Place the watch in a location where signal reception is good.



- Position the watch as shown in the nearby illustration, with 12 o'clock pointed towards a window. Make sure there are no metal objects nearby.
- Signal reception normally is better at night.
- The receive operation takes from two to seven minutes, but in some cases it can take as long as 14 minutes. Take care that you do not perform any button operation or move the watch during this time.

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- Signal reception may be difficult or even impossible under the conditions described 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

- What you should do next depends on whether you are using Auto Receive or Manual Receive.

- Auto Receive: Leave the watch over night in the location you selected in step 2. See "Auto Receive" on page E-28 for details.
- Manual Receive: Perform the operation under "To perform manual receive" on page E-29.

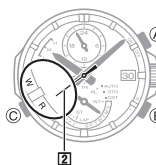
Auto Receive

- With Auto Receive, the watch performs the receive operation each day automatically up to six times (up to five times for the Chinese calibration signal) between the hours of midnight and 5 a.m. (according to the Timekeeping Mode time). When any receive operation is successful, none of the other receive operations for that day are performed.
- When a calibration time is reached, the watch will perform the receive operation only if it is in the Timekeeping Mode. The receive operation is not performed if a calibration time is reached while you are configuring settings.

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To perform manual receive

- In the Timekeeping Mode (page E-37), keep **[B]** depressed (for about two seconds) as the **[2] Second Hand** goes through the following sequence.
 - Moves to **H (High)**, **M (Medium)**, or **L (Low)** to indicate the power level and then moves to **R (READY)**.
- The **[2] Second Hand** indicates the operations the watch is currently performing.



When the [2] Second Hand is pointed here:	It means this:
R (READY)	Watch is setting up for reception.
W (WORK)	Reception is in progress.

- If signal reception is unstable, the **[2] Second Hand** may move between **W (WORK)** and **R (READY)**.
- When the receive operation is successful, the watch adjusts the time setting accordingly, and then resumes regular timekeeping. It does not adjust the setting if the operation failed.

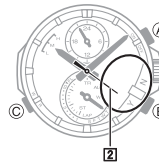
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- Signal reception is not performed when the power level is **L (Low)**.

Note

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

To check the result of the latest receive operation



- In the Timekeeping Mode, press **(B)**. The **(2) Second Hand** will move to **H (High)**, **M (Medium)**, or **L (Low)** to indicate the power level, and then it will indicate the latest time calibration signal receive operation result.
- The **(2) Second Hand** will move to **Y (YES)** if the latest receive operation was successful, or **N (NO)** if it was not. After about 10 seconds, regular timekeeping will resume.
 - Press **(B)** to return to regular timekeeping. The watch will also return to regular timekeeping if you do not perform any operation for about 10 seconds.

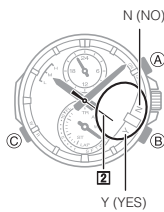
Note

- The **(2) Second Hand** will indicate **N (NO)** if you have adjusted the time or day setting manually since the latest receive operation.

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To turn auto receive on and off



- In the Timekeeping Mode, press **(B)**. The **(2) Second Hand** will move to **H (High)**, **M (Medium)**, or **L (Low)** to indicate the power level, and then it will indicate the latest time calibration signal receive operation result.
- Pull out the crown. The **(2) Second Hand** will perform one full revolution and then stop at the current on/off setting.
- Rotate the crown to move the **(2) Second Hand** to the setting you want.
 - To turn on auto receive, select **Y (YES)**.
 - To turn off auto receive, select **N (NO)**.
- Push the crown back in to return to the Timekeeping Mode.

Radio-controlled Atomic Timekeeping Precautions

- Strong electrostatic charge can result in the wrong time setting.
- Even if a receive operation is successful, certain conditions can cause the time setting to be off by up to one second.
- The watch is designed to update its day setting automatically for the period from January 1, 2000 to December 31, 2099. Updating of the day setting by signal reception will no longer be performed starting from January 1, 2100.
- If you are in an area where signal reception is not possible, the watch keeps time with the precision noted in "Specifications" (page E-80).
- The receive operation is disabled under any of the following conditions.
 - While power is at Level 2 or lower (page E-17)
 - While the watch is in the power recovery mode (page E-18)
 - While the watch is in the function sleep state (Power Saving, page E-20)
 - While the watch is in the World Time Mode (page E-50)
 - While a countdown timer operation is in progress (page E-62)
- A receive operation is cancelled if an alarm sounds while it is being performed.

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Mode Reference Guide

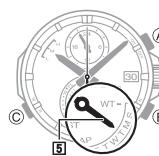
Your watch has five "modes". The mode you should select depends on what you want to do.

To do this:	Enter this mode:	See:
<ul style="list-style-type: none"> • Configure Home City and DST (daylight saving time) settings • Perform a time calibration signal receive operation • Change the Auto Receive on/off setting • Configure time and day settings manually • Check the current power level 	Timekeeping Mode	E-37
<ul style="list-style-type: none"> • View the current time in one of 29 cities around the globe • Configure World Time City and summer time settings • Swap the Home City and World Time City 	World Time Mode	E-50 E-51 E-54
Measure elapsed time and lap times, and recall lap times	Stopwatch Mode	E-55
Use the countdown timer	Countdown Timer Mode	E-60

To do this:	Enter this mode:	See:
<ul style="list-style-type: none"> • Set an alarm time • Turn the alarm ON or OFF 	Alarm Mode	E-63 E-66

Selecting a Mode

With this watch, everything starts from the Timekeeping Mode.



To determine the watch's current mode
Check what the **(5) Lower Dial Hand** is indicating as shown under "To select a mode" (page E-36).

To return to the Timekeeping Mode from any other mode

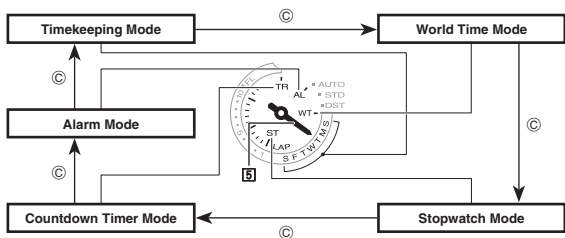
Hold down **(C)** for at least two seconds.

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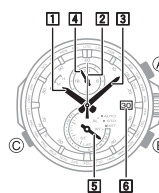
To select a mode

Each press of **(C)** will cycle between modes. The currently selected mode is indicated by the **(5) Lower Dial Hand**.



Timekeeping

To enter the Timekeeping Mode, hold down **(C)** at least two seconds.



Hand Functions

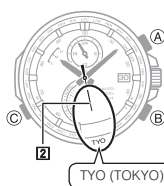
- Hour Hand
- Second Hand
- Minute Hand
- Upper Dial Hand: Indicates the current hour in the Home City time in 24-hour format.
- Lower Dial Hand: Points to the day of the week.
- Day Indicator

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Configuring Home City Settings

The Home City is location where you will normally use the watch. You can choose from a selection of city codes that represent 29 cities around the globe.

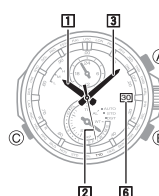


To configure Home City settings

- Note**
- This watch does not have a city code that corresponds to Newfoundland.

- Pull out the crown.
 - This will cause the **(2) Second Hand** to move to the city code of the currently selected Home City.
 - This indicates the city code setting mode.

- If you do not perform any operation with the crown for about two minutes after pulling it out, crown operations will become disabled and the hand will not move if you rotate the crown. If this happens, push the crown back in and then pull it out again.
- For details about city codes, see the "City Code Table" at the back of this manual.



- Rotate the crown to move the **(2) Second Hand** to the city code you want to select as your Home City.
 - Each time you select a city code, the **(1) Hour Hand**, **(3) Minute Hand** and **(6) Day Indicator** move to the current time and day for that city code.
- Push the crown back in to return to the Timekeeping Mode.

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STD/DST Switching

You can select summer time or standard time independently for each city. The initial default setting for all cities is **AUTO**. Normally you should use the **AUTO** setting because it automatically switches between summer time and standard time. You should change the setting to **STD** (standard time) or **DST** (summer time) in the following cases.

- When using a time of a location that is not included in the watch's list of 29 cities
- When the preset **AUTO** standard time/summer time timing is incorrect for some reason

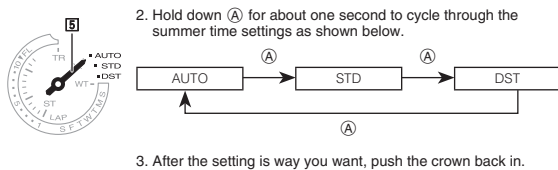
Daylight Saving Time (DST)

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.

- Note that you cannot switch between **STD** (standard time) and **DST** (daylight saving time) while **UTC*** is selected as your Home City.
- * Coordinated Universal Time, the world-wide scientific standard of timekeeping. The reference point for UTC is Greenwich, England.

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To switch between standard time and summer time manually

- Perform steps 1 and 2 under "To configure Home City settings" (page E-38).
 - Selecting a city code will cause the (1) Hour Hand, (3) Minute Hand, and (4) Upper Dial Hand to move automatically to the current time for the selected city code.
 - If you will use the watch in a city that is not included in the city code list, select a city code that is in the same time zone as your city.
 - Displaying the Home City Settings screen will cause the (5) Lower Dial Hand to move to **AUTO** (auto switching), **STD** (standard time), or **DST** (daylight saving time).

AUTO	The watch automatically switches between standard time and daylight saving time in accordance with its calendar.
STD	The watch always shows standard time.
DST	The watch always shows daylight saving time.

Configuring Current Time and Day Settings Manually

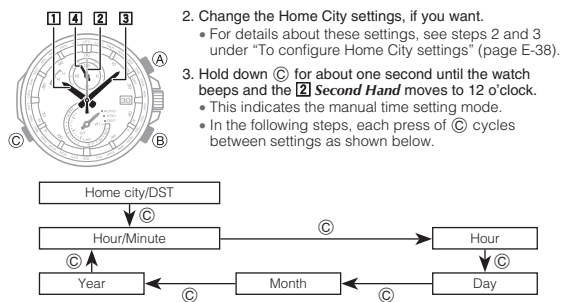
You can configure current time and day settings manually when the watch is unable to receive a time calibration signal.

To change the current time setting manually

- Pull out the crown.
 - This will cause the (2) Second Hand to move to the city code of the currently selected Home City.
 - If you do not perform any operation with the crown for about two minutes after pulling it out, crown operations will become disabled and the hand will not move if you rotate the crown. If this happens, push the crown back in and then pull it out again.
-

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- Rotate the crown to adjust the time (hour and minute) setting.
 - See "Using the Crown" (page E-3) for information about high-speed hand movement.
 - The (4) Upper Dial Hand is synchronized with the (1) Hour Hand.
 - When adjusting the setting, check to make sure that the (4) Upper Dial Hand correctly indicates an a.m. time or p.m. time.
 - If you want to change the day setting at this time, press (C) and perform the procedure starting from step 3 under "To change the current day setting manually" (page E-46).
- After the settings are the way you want, push the crown back in to return to the Timekeeping Mode.
 - This causes timekeeping to resume with the (2) Second Hand starting from 12 o'clock.

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To change the current day setting manually

- Pull out the crown.
 - This will cause the (2) Second Hand to move to the city code of the currently selected Home City.
 - Hold down (C) for about one second until the watch beeps and the (2) Second Hand moves to 12 o'clock.
 - This indicates the manual time setting mode.
 - Press (C) twice. This will enter the day setting mode.
 - The (6) Day Indicator will move slightly to indicate the setting mode.
 - Rotate the crown to adjust the day setting.
-

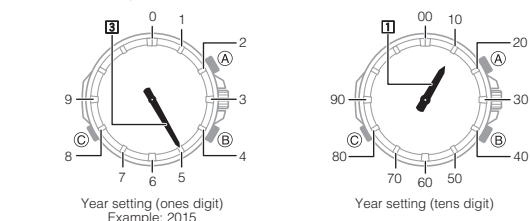
- After the (6) Day Indicator stops moving, press (C). This will enter the month setting mode.
 - The (2) Second Hand will move to the currently selected month.
 - Rotate the crown to adjust the month setting.
 - Press (C). This will enter the year setting mode.
 - The (1) Hour Hand will move to the number that represents the tens digit of the year and the (3) Minute Hand will move to the number that represents the ones digit. The (2) Second Hand will move to 12 o'clock and stop there.
-
- Setting the month

E-46

E-47

- Rotate the crown to adjust the year setting.
 - If you want to change the time setting at this time, press (C) and then perform the procedure starting from step 4 under "To change the current time setting manually" (page E-43).

- After the settings are the way you want, push the crown back in to return to the Timekeeping Mode.
 - This causes timekeeping to resume with the (2) Second Hand starting from 12 o'clock.



Note

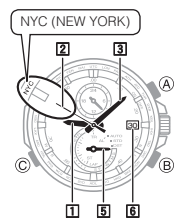
- The watch's built-in full automatic calendar makes allowances for different month lengths and leap years. Once you set the day, there should be no reason to change it except after you have the watch's rechargeable battery replaced or after power drops to Level 3.

E-48

E-49

Checking the Current Time in a Different Time Zone

You can use World Time to view the current time in one of 29 time zones around the globe. The currently selected city is called the "World Time City".



Hands and Indicators

- 1 Hour Hand: Indicates the hour of the current time in the World Time City.
 - 2 Second Hand: Indicates the current World Time City for about three seconds after the World Time mode is entered.
 - 3 Minute Hand
 - 4 Lower Dial Hand: Points to WT.
 - 5 Day Indicator
- Pressing (A) causes the 2 Second Hand to move to the current World Time City for about three seconds.

E-50

Important!

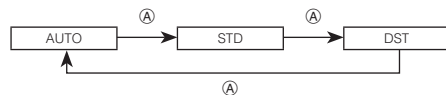
- Time calibration signal reception is disabled while the watch is in the World Time Mode.

To view the time in another time zone

1. In the Timekeeping Mode, press (C) once to enter the World Time Mode.
 - The 5 Lower Dial Hand will move to WT.
 - To select the UTC zone as your World Time, simply hold down (B) for about three seconds. No other operation is required.
2. Pull out the crown.
 - The 2 Second Hand points to the currently selected World Time city code.
 - The 5 Lower Dial Hand will indicate AUTO, STD (standard time) or DST (daylight saving time), which indicates the current daylight saving time setting.
 - If you do not perform any operation with the crown for about two minutes after pulling it out, crown operations will become disabled and the watch hands will no longer move when you rotate the crown. If this happens, push the crown back in and then pull it out again.

E-51

3. Rotate the crown to move the 2 Second Hand to the city code you want to select as the World Time City.
 - Each time you select a city code, the 1 Hour Hand, 3 Minute Hand, and 4 Day Indicator move to the current time and day for that city code. For details about city codes, see the "City Code Table" at the back of this manual.
 - If you think that the time indicated for the selected World Time City is not correct, it probably means that there is something wrong with your Home City settings. Use the procedure under "To configure Home City settings" (page E-38) to correct the Home City settings.
4. Hold down (A) for about one second to cycle through the summer time settings as shown below.

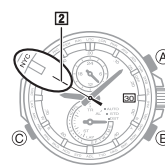


E-52

5. After selecting the city you want, push the crown back in to return to the World Time Mode.

Swapping your Home City and World Time City

You can use the procedure below to swap your Home City and World Time City. This capability can come in handy when you frequently travel between two locations in different time zones.

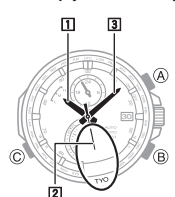


The following example shows what happens when the Home City and World Time City are swapped while the Home City originally is TYO (Tokyo) and the World Time City is NYC (New York).

	Home City	World Time City
Before swapping	Tokyo 10:08 p.m. (Standard time)	New York 9:08 a.m. (Daylight saving time)
After swapping	New York 9:08 a.m. (Daylight saving time)	Tokyo 10:08 p.m. (Standard time)

E-53

To swap your Home City and World Time City



- In the World Time Mode, hold down (A) for about three seconds until the watch beeps.
- This indicates that your Home City and World Time City have been swapped.
 - After swapping the Home City and World Time City, the watch will stay in the World Time Mode. The 2 Second Hand will point to your new World Time City (TYO in this example).

Note

- If your current World Time City supports time calibration signal reception, making it your Home City enables calibration signal reception for that city.

E-54

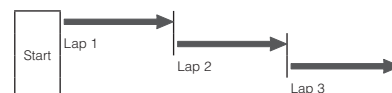
Using the Stopwatch

You can use the Stopwatch Mode to measure elapsed time and lap times, and to recall lap times. Up to 10 lap times can be stored in memory. There is also memory to record the fastest lap time. Though no more lap times are stored after 10 times are in memory, the fastest lap time continues to be updated as required. Starting a new elapsed time operation clears all of the memories (including fastest lap time).

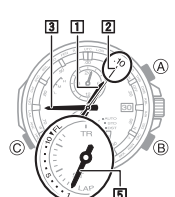
What is a lap time?

A lap time is the time elapsed over a specific segment of a race.

Example: Car race on an oval track



E-55



Hands and Indicators

- 1 Hour Hand: Indicates the stopwatch minute count (1 revolution = 60 minutes).
- 2 Second Hand: Indicates the 1/20 (0.05)-second count during stopwatch operation.
- 3 Minute Hand: Indicates the stopwatch seconds count.
- 4 Lower Dial Hand: Indicates the current lap.

To enter and exit the Stopwatch Mode

- In the Timekeeping Mode, press (C) twice to enter the Stopwatch Mode.
- The 5 Lower Dial Hand will move to 1 (Lap 1).

E-56

To perform an elapsed time operation



To perform lap time measurement



- Each press of (B) records a lap time. You can record up to 10 lap times. After that, you can still perform lap time operations, but they will not be recorded.
- After 10 lap times are recorded, the 5 Lower Dial Hand will point to the ▲ mark. This indicates that no more lap times will be recorded.
- If you perform a lap time operation that is not recorded (because 10 times are already in memory) and that lap is the fastest lap, it will be recorded as the fastest lap.

E-57

- Performing a new elapsed time operation after resetting the stopwatch will delete previously recorded lap times.
- An ongoing elapsed time measurement operation is not affected by pulling out the crown.
- The 2 Second Hand, which indicates the 1/20 (0.05)-second count during stopwatch operation, moves only 30 seconds after an elapsed time measurement operation is started or restarted, or after a lap time is cleared. After that, the 2 Second Hand stops.
- When elapsed time passes 60 minutes, the 1 Hour Hand and 4 Upper Dial Hand will perform one full rotation.

E-58

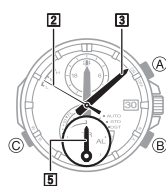
To recall lap data

1. While in the Stopwatch Mode, pull out the crown to enter the Data Recall Mode.
2. Rotate the crown to select other laps.
 - The 5 Lower Dial Hand will indicate the lap number of currently shown time.
 - The 5 Lower Dial Hand will indicate FL (fastest lap) when the fastest lap time is shown.
3. To return to the Stopwatch Mode, push the crown back in.

E-59

Using the Countdown Timer

The countdown timer can be configured within a range of one minute to 60 minutes. An alarm sounds for about 10 seconds when the timer reaches zero.

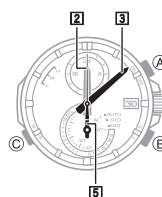


Hands and Indicators

- 2 Second Hand: Indicates countdown or elapsed seconds.
- 3 Minute Hand: Indicates countdown or elapsed minutes.
- 5 Lower Dial Hand: Points to **TR**.
- All hands move counterclockwise during a countdown.

E-60

To specify the countdown start time



1. In the Timekeeping Mode, press **(C)** three times to enter the Countdown Timer Mode.
 - The **5 Lower Dial Hand** will move to **TR**.
2. In the Countdown Timer Mode, pull out the crown. This enters the countdown start time setting mode.
 - If you do not perform any operation with the crown for about two minutes after pulling it out, crown operations will become disabled and the hand will not move if you rotate the crown. If this happens, push the crown back in and then pull it out again.
3. Rotate the crown to set the countdown start time.
 - The maximum countdown start time setting is 60 minutes. To set a countdown start time of 60 minutes, move the **3 Minute Hand** to 12 o'clock.
 - See "Using the Crown" (page E-3) for information about high-speed hand movement.

E-61

To perform a countdown timer operation



- A time-up alert sounds for 10 seconds when the countdown reaches 0, and then the timer displays the start time.
- The alarm will not sound if battery power is low.
- Pulling out the crown while a countdown is in progress will stop the countdown and enter the countdown start time setting mode.

Important!

- Time calibration signal reception is disabled while the watch is in the Countdown Timer Mode.

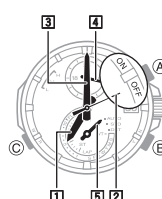
To stop the alarm

Press any button.

E-62

Using the Alarm

When the alarm is turned on, an alarm will sound for about 10 seconds each day when the time in the Timekeeping Mode reaches the preset alarm time. This is true even if the watch is not in the Timekeeping Mode.



Hands and Indicators

- 1 Hour Hand: Indicates the currently set alarm time hour.
- 2 Second Hand: Indicates the current alarm ON/OFF setting.
- 3 Minute Hand: Indicates the currently set alarm time minute.
- 4 Upper Dial Hand: Indicates the hour setting of the current alarm time in 24-hour format.
- 5 Lower Dial Hand: Points to **AL**.

3. Rotate the crown to set the alarm time.
 - The **1 Hour Hand** will also move.
 - See "Using the Crown" (page E-3) for information about high-speed hand movement.
4. Press **(C)** to switch to the hour setting mode.
 - The **1 Hour Hand** will move slightly left and right to indicate the **1 Hour Hand** setting mode.
 - Check the 24-hour time indicated by the **4 Upper Dial Hand** to see if the current setting is a.m. or p.m.
5. Rotate the crown to adjust the hour setting only.
 - See "Using the Crown" (page E-3) for information about high-speed hand movement.

E-63

To change the alarm time setting

1. In the Timekeeping Mode, press **(C)** four times to enter the Alarm Mode.
 - The **5 Lower Dial Hand** will move to **AL**.
2. Pull out the crown to enter the alarm setting mode.
 - If you do not perform any operation with the crown for about two minutes after pulling it out, crown operations will become disabled and the watch hands will no longer move when you rotate the crown. If this happens, push the crown back in and then pull it out again.
 - You can toggle between the hour and minute setting mode, and the hour only setting mode by pressing **(C)**.



E-64

6. After the setting is the way you want, push the crown back in to exit the alarm setting mode.

- The alarm always works based on the time kept in the Timekeeping Mode.
- The watch will return to the Timekeeping Mode automatically if you do not perform any operation in the Alarm Mode for about two or three minutes.

To turn the alarm on or off

In the Alarm Mode, press **(A)** to toggle the alarm between on and off. The **2 Second Hand** will indicate the current ON/OFF setting.

Note

- The alarm will not sound if battery power is low.
- The alarm will not sound if the watch is in the Power Saving sleep state.

To stop the alarm

Press any button.

E-66

Adjusting Home Positions

Strong magnetism or impact can cause the hands and/or day indicator setting to be off, even if the watch is able to perform the time calibration signal receive operation.

Auto Home Position Adjustment

Auto correction of hand home positions corrects the hand position automatically.

- Auto correction is performed in the Timekeeping Mode only.
- Auto correction corrects the positions of all hands. For the day indicator, you must perform the manual adjustment procedure under "To adjust home positions" (page E-69).
- If the **4 Upper Dial Hand** is 12 hours off of the current correct time, correct the setting using the procedure under "To adjust home positions" (page E-69).
- Auto correction of the **5 Lower Dial Hand** is performed once a day in the middle of the night, while the watch is in the sleep state (page E-20).

E-65

Manual Home Position Adjustment

Perform the procedure in this section if auto home position adjustment is not possible for some reason.

- Hand home position adjustment is not required if the time and day settings are correct.

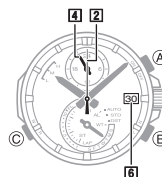
Note

- Any time after you enter the home position adjustment mode in step 2 of the following procedure, you can return to the Timekeeping Mode by pushing the crown back in. In this case, any adjustments you made before the watch returned to the Timekeeping Mode will be applied.
- If you do not perform any operation with the crown for about two minutes after pulling it out, crown operations will become disabled and hands will not move if you rotate the crown. If this happens, push the crown back in and then pull it out again.

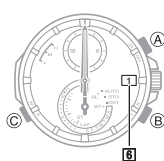
E-68

To adjust home positions

1. Pull out the crown.
2. Hold down **(B)** for at least five seconds until the watch beeps and the **2 Second Hand** moves to 12 o'clock.
 - Automatic home position adjustment of all of the hands (but not the **5 Day Indicator**) will start.
 - If all hands are at 12 o'clock (the proper home hand home position), advance directly to step 3.
 - If the **4 Upper Dial Hand** is not pointing at **24**, which is its home position, hold down **(A)** for about two seconds to move it there.



E-69



3. Press **C**.
 - This enters the **[6] Day Indicator** home position adjustment mode.
4. Check the **[6] Day Indicator** to confirm that it is 1, which is its home position.
 - If the **1** is not in the center of the **[6] Day Indicator**, rotate the crown to center it.
 - Rotating the crown three full consecutive turns clockwise will cause the **[6] Day Indicator** to start changing in a forward direction (increment).
 - To stop **[6] Day Indicator** movement, press any button.
5. Push the crown back in to return to the Timekeeping Mode.
 - This will cause the hands to return to their normal positions and resume regular timekeeping. Wait until everything stops moving before performing any other operation.

E-70

E-71

- The time setting is being adjusted following a successful auto time calibration signal receive operation (page E-21).
- **Hands suddenly stop moving. Button operation also is disabled.**
The watch may be in the power recovery mode (page E-18). Do not perform any operation until the hands return to their normal positions (in about 15 minutes). The hands should return to their correct positions when normal operation returns. To help power recover, leave the watch in a location where it is exposed to light.
- **The current time setting is off by hours.**
 - Your Home City setting may be wrong. Check your Home City setting and correct it, if necessary (page E-38).
- **The current time setting is off by one hour.**
 - If you are using the watch in an area where time calibration signal reception is possible, see "To configure Home City settings" (page E-38).

E-72

E-73

Charging

- **The watch does not resume operation after I expose it to light.**
This can happen after the power level drops to Level 3 (page E-17). Continue exposing the watch to light until the **[2] Second Hand** starts moving normally (at one-second intervals).
- **The [2] Second Hand starts to move at one-second intervals, but then suddenly returns to moving at two-second intervals.**
The watch probably is not sufficiently charged yet. Continue keeping it exposed to light.

Time Calibration Signal

The information in this section applies only when **LONDON (LON)**, **PARIS (PAR)**, **ATHENS (ATH)**, **HONOLULU (HNL)**, **ANCHORAGE (ANC)**, **LOS ANGELES (LAX)**, **DENVER (DEN)**, **CHICAGO (CHI)**, **NEW YORK (NYC)**, **HONG KONG (HKG)**, or **TOKYO (TYO)** is selected as the Home City. You need to adjust the current time manually when any other city is selected as the Home City.

E-74

- **The current time setting changes after I set it manually.**
You may have the watch configured for Auto Receive of the time calibration signal (page E-28), which will cause the time to be adjusted automatically according to your currently selected Home City. If this results in the wrong time setting, check your Home City setting and correct it, if necessary (page E-38).

- **The current time setting is off by one hour.**

Possible Cause	Remedy	Page
The period when summer time is applied in the location where you are using the watch may be different from the period set for your currently selected Home City.	Use the procedure under "To switch between standard time and summer time manually" to switch from AUTO to STD (for standard time) or DST (for summer time).	E-31 E-38

E-76

- **Signal reception is being performed successfully, but the time and/or day is wrong.**

Possible Cause	Remedy	Page
Your Home City setting is wrong.	Check your Home City setting and correct it, if necessary.	E-31 E-38
The watch may have been exposed to magnetism or strong impact, which has caused problems with proper hand and day indicator alignment.	Adjust the watch's hand and day indicator home positions.	E-67

E-78

Troubleshooting

Hand Movement and Position

- **I lost track of what mode the watch is in.**
Refer to "Mode Reference Guide" (page E-34). To return directly to the Timekeeping Mode, hold down **C** at least two seconds.
- **The [2] Second Hand is moving at two-second intervals.**
- **All the watch's hands are stopped at 12 o'clock and none of the buttons work ([2] Second Hand stopped at 57, 58, 59, or 00).**
Power may be low. Expose the watch to light until the **[2] Second Hand** starts moving normally, at one-second intervals (page E-17).
- **The hands of the watch suddenly start moving at high speed, even when I do not perform any operation.**
This could be due to any one of the following causes. In all cases, the hand movement does not indicate malfunction, and should stop shortly.
 - The watch is recovering from a sleep state (page E-20).

- The period when summer time is applied in the location where you are using the watch may be different from the period set for your currently selected Home City. Use the procedure under "To switch between standard time and summer time manually" (page E-41) to switch from **AUTO** to **STD** (for standard time) or **DST** (for summer time).
- **The time and date settings are off.**
This could indicate that the watch has been exposed to magnetism or strong impact, which has caused problems with proper hand and day indicator alignment. Adjust the watch's hand and day indicator home position alignment (page E-67).

- **The [2] Second Hand indicates N (NO) when I check the result of the latest receive operation.**

Possible Cause	Remedy	Page
<ul style="list-style-type: none"> • You are wearing or moving the watch, or performing a button operation during time calibration signal receive operation. • The watch is in an area with poor reception conditions. 	Keep the watch in an area where reception conditions are good while time calibration signal receive operation is being performed.	E-26
You are in an area where signal reception is not possible for some reason.	See "Approximate Reception Ranges".	E-23
The alarm time was reached during time calibration signal reception.	The alarm sounded during time calibration signal reception, causing reception to be canceled.	—
The calibration signal is not being transmitted for some reason.	<ul style="list-style-type: none"> • Check the website of the organization that maintains the time calibration signal in your area for information about its down times. • Try again later. 	—

E-75

- **Auto Receive is not performed or I cannot perform Manual Receive.**

Possible Cause	Remedy	Page
The watch is in the World Time Mode. The watch is in the Stopwatch Mode.	Auto Receive is not performed while the watch is in the World Time Mode or Stopwatch Mode. Hold down C at least two seconds to enter the Timekeeping Mode.	E-28 E-35
Your Home City setting is wrong.	Check your Home City setting and correct it, if necessary.	E-21 E-38
Auto time calibration signal reception is OFF.	Check the auto time calibration signal reception setting.	E-31
A countdown timer operation is in progress.	In the Countdown Timer Mode, stop the timer operation and then return to the Timekeeping Mode.	E-62
There is not enough power for signal reception.	Expose the watch to light to charge it.	E-13

E-77

World Time

- **The indicated World Time is wrong.**
There is a problem with your Home City settings. Check your Home City settings. See "To configure Home City settings" (page E-38).
- **The indicated World Time is one hour off.**
The daylight saving time (summer time) setting for the World Time city is wrong. See "To view the time in another time zone" (page E-51).

Alarm

- **The alarm does not sound.**
 - Power may be low. Expose the watch to light until the **[2] Second Hand** starts moving normally, at one-second intervals (page E-17).
 - The time setting is wrong in terms of a.m. and p.m.
 - The crown may be pulled out. Push the crown back in.

E-79

Specifications

Accuracy at normal temperature: ±15 seconds a month (with no signal calibration)

Timekeeping: Hour, minutes (hand moves every 10 seconds), seconds, day
 Calendar system: Full Auto-calendar pre-programmed from the year 2000 to 2099
 Other: Home City code (can be assigned one of 29 city codes and Coordinated Universal Time); Daylight Saving Time (summer time) auto switching / Standard time

Time Calibration Signal Reception: Auto receive up to six times a day (5 times a day for the Chinese calibration signal; Remaining auto receives cancelled as soon as one is successful); Manual receive

Receivable Time Calibration Signals:

Mainflingen, Germany (Call Sign: DCF77, Frequency: 77.5 kHz);
 Anthon, England (Call Sign: MSF, Frequency: 60.0 kHz); Fukushima, Japan (Call Sign: JJY, Frequency: 40.0 kHz); Fukuoka/Saga, Japan (Call Sign: JJY, Frequency: 60.0 kHz); Fort Collins, Colorado, the United States (Call Sign: WWVB, Frequency: 60.0 kHz); Shangqiu City, Henan Province, China (Call Sign: BPC, Frequency: 68.5 kHz)

E-80

World Time: 29 cities (29 time zones) and Coordinated Universal Time
 Other: Daylight Saving Time (summer time) / Standard Time

Stopwatch: Measuring capacity: 59'59.95"
 Measuring unit: 1/20 (0.05) seconds
 Measuring mode: Elapsed time
 Lap time (Memories: 10, Fastest lap memory)

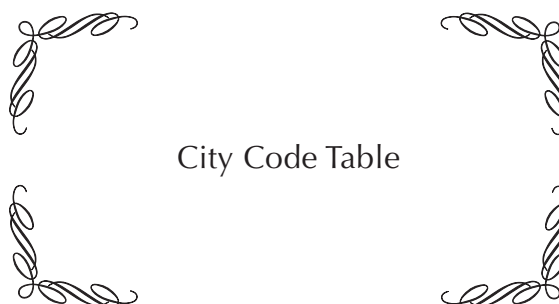
Countdown Timer:
 Measuring unit: 1 second
 Input range: 1 to 60 minutes (1-minute increments)

Alarm: Daily alarm

Other: Power Saving; Battery level indication; Low battery alert; Auto Correction of Hand Home Positions

Power Supply: Solar panel and one rechargeable battery
 Approximate battery operating time: 6 months (no exposure to light after a full charge; 10 seconds alarm beeper operation and one signal reception of approximately 4 minutes per day)

E-81



L-1

City Code Table

City Code	City	UTC Offset/ GMT Differential	Summer Time Period	
			Summer Time Start	Summer Time End
PAGO PAGO (PPG)	Pago Pago	-11	None	None
HONOLULU (HNL)	Honolulu	-10		
ANCHORAGE (ANC)	Anchorage	-9	2:00 a.m., second Sunday in March	2:00 a.m., first Sunday in November
LOS ANGELES (LAX)	Los Angeles	-8		
DENVER (DEN)	Denver	-7		
CHICAGO (CHI)	Chicago	-6		
NEW YORK (NYC)	New York	-5		
SANTIAGO (SCL)	Santiago	-4	Midnight, second Saturday in October	Midnight, second Saturday in March
RIO DE JANEIRO (RIO)	Rio De Janeiro	-3	Midnight, third Sunday in October	Midnight, third Sunday in February or Midnight, fourth Sunday in February

L-2

City Code	City	UTC Offset/ GMT Differential	Summer Time Period	
			Summer Time Start	Summer Time End
F. DE NORONHA (FEN)	Fernando de Noronha	-2	None	None
PRAIA (RAI)	Praia	-1		
UTC				
LONDON (LON)	London	0	1:00 a.m., last Sunday in March	2:00 a.m., last Sunday in October
PARIS (PAR)	Paris	+1	2:00 a.m., last Sunday in March	3:00 a.m., last Sunday in October
ATHENS (ATH)	Athens	+2	3:00 a.m., last Sunday in March	4:00 a.m., last Sunday in October
JEDDAH (JED)	Jeddah	+3	None	None
TEHRAN (THR)	Tehran	+3.5	Midnight, March 22 or Midnight, March 21	Midnight, September 22 or Midnight, September 21

L-3

City Code	City	UTC Offset/ GMT Differential	Summer Time Period	
			Summer Time Start	Summer Time End
DUBAI (DXB)	Dubai	+4	None	None
KABUL (KBL)	Kabul	+4.5		
KARACHI (KHI)	Karachi	+5		
DELHI (DEL)	Delhi	+5.5		
DHAKA (DAC)	Dhaka	+6		
YANGON (RGN)	Yangon	+6.5		
BANGKOK (BKK)	Bangkok	+7		
HONG KONG (HKG)	Hong Kong	+8		
TOKYO (TYO)	Tokyo	+9		
ADELAIDE (ADL)	Adelaide	+9.5		
SYDNEY (SYD)	Sydney	+10	None	None
NOUMEA (NOU)	Noumea	+11	None	None
WELLINGTON (WLG)	Wellington	+12	2:00 a.m., last Sunday in September	3:00 a.m., first Sunday in April

L-4

- * Based on data as of December 2013.
- * The rules governing global times (UTC offset and GMT differential) and summer time are determined by each individual country.
- * The summer time periods in this table are applicable to specific cities. For cities not included in the list, select the list city that is in the same time zone as the desired city and perform STD/DST settings manually.

L-5