

Operation Guide 3451

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.

Applications

The built-in sensors of this watch measure direction and temperature. Measured values are then shown on the display. Such features make this watch useful when hiking, mountain climbing, or when engaging in other such outdoor activities.

ENGLISH

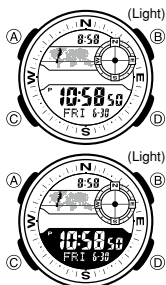
Warning!

- The measurement functions built into this watch are not intended for use in taking measurements that require professional or industrial precision. Values produced by this watch should be considered as reasonably accurate representations only.
- When engaging in mountain climbing or other activities in which losing your way can create a dangerous or life-threatening situation, always be sure to use a second compass to confirm direction readings.
- 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.

E

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About This Manual



- Depending on the model of your watch, display text appears either as dark figures on a light background or light figures on a dark background. All sample displays in this manual are shown using dark figures on a light background.
- 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.

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Mode Reference Guide

Your watch has 6 "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"> View the current time and date in your Home City and the current time in the Local Time City Configure the Daylight Saving Time (DST) settings of your Home City and Local Time City Configure the time and date settings of your Home City and the time setting of the Local Time City 	Timekeeping Mode	E-10
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<ul style="list-style-type: none"> View the current time in one of 48 cities (31 time zones) and UTC* time Simultaneously view the current time in your World Time City, Home City, and Local Time City. 	World Time Mode	E-47
Use the stopwatch to measure elapsed time	Stopwatch Mode	E-50

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To do this:	Enter this mode:	See:
Use the countdown timer	Countdown Timer Mode	E-52
Set an alarm time	Alarm Mode	E-55

* Coordinated Universal Time (UTC) is the global time standard used to regulate time.

General Guide

- The illustration below shows which buttons you need to press to navigate between modes.
- In any mode (except when a setting screen is on the display), press (B) to illuminate the display.
- You can enter the Digital Compass/Thermometer Mode from the Timekeeping Mode by pressing (D). To enter from another mode, first use (C) to enter the Timekeeping Mode, and then press (D).



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Timekeeping

This watch can keep track of the current time in up to three different time zones.

Home Time

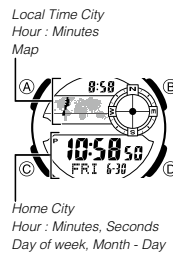
- This is the time in the city where you normally use your watch (Home City). It is the time displayed in the Timekeeping Mode.

Local Time

- This is the time in the city located in the time zone that is highlighted on the watch's world map (Local Time City).

World Time

- This is the time in the city you select in the World Time Mode (page E-47).



You can adjust the Home Time city date and time in the Timekeeping Mode. You also can simultaneously display the current time in one other time zone, by specifying a Local Time City.

- For information about selecting a Local Time City, see "To specify the Local Time City" (page E-18).

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Read This Before You Set the Time and Date!

This watch is preset with a number of city codes, each of which represents the time zone where that city is located. When setting the time, it is important that you first select the correct city code for your Home City (the city where you normally use the watch). If your location is not included in the preset city codes, select the preset city code that is in the same time zone as your location.

- Note that all of the times for the World Time Mode city codes (page E-48) and Local Time city codes (page E-18) are displayed in accordance with the time and date settings you configure in the Timekeeping Mode.

To set your Home City time and date

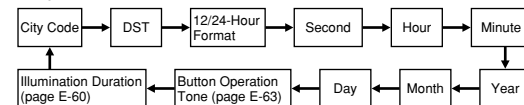
- In the Timekeeping Mode, hold down (A) for about two seconds until the time zone of the currently selected Home City starts to flash on the world map. This is the setting screen.
 - The Home City code will also appear on the display. Release (A) immediately after the Home City code appears. Keeping it depressed longer (about four seconds) will switch to the Local Time City setting screen, which is indicated when the Local Time City code is displayed.

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- Use (D) and (B) to scroll through city codes in the lower display until the one you want is displayed.
 - Make sure you select your Home City code before changing any other setting.
 - For full information on city codes, see the "City Code Table" at the back of this manual.

- Press (C) to move the flashing in the sequence shown below to select the other settings.



- After a city code is displayed, it will scroll once to show the full city name.
- The following steps explain how to configure timekeeping settings only.

- When the timekeeping setting you want to change is flashing, use (D) and/or (B) to change it as described below.

Screen	To do this:	Do this:
TYO	Change the city code	Use (D) (east) and (B) (west).
OFF	Toggle between Daylight Saving Time (ON) and Standard Time (OFF).	Press (D).
12H	Toggle between 12-hour (12H) and 24-hour (24H) timekeeping.	Press (D).
50	Reset the seconds to 00	Press (D).
10:58	Change the hour or minute	Use (D) (+) and (B) (-).

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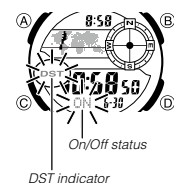
E-15

Daylight Saving Time (DST) Setting

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.

To toggle the Timekeeping Mode time between DST and Standard Time

- In the Timekeeping Mode, hold down (A) for about two seconds until the time zone of the currently selected Home City starts to flash on the world map. This is the setting screen.
 - Release (A) immediately after the Home City code appears. Keeping it depressed longer (about four seconds) will switch to the Local Time City setting screen.
- Press (C) once to display the DST setting screen.

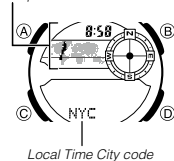


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To specify the Local Time City

Local Time City
Hour : Minutes
Map



- In the Timekeeping Mode, hold down (A) for about four seconds until the time zone of the currently selected Local Time City starts to flash on the world map. This is the setting screen.
 - Note that the Home City time zone will flash on the world map about two seconds after you hold down (A). Keep (A) depressed for about four seconds until the Local Time zone flashes.
- Use (D) and (B) to scroll through city codes in the lower display until the one you want is displayed.
 - For full information on city codes, see the "City Code Table" at the back of this manual.
 - The time zone that is highlighted in the world map will change in accordance with the Local Time City code you select.
- Press (A) to exit the setting screen.

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To toggle a Local Time City time between Standard Time and Daylight Saving Time

- In the Timekeeping Mode, hold down (A) for about four seconds until the time zone of the currently selected Local Time City starts to flash on the world map. This is the setting screen.
 - Note that the Home City time zone will flash on the world map about two seconds after you hold down (A). Keep (A) depressed for about four seconds until the Local Time zone flashes.
- Press (C) once to display the DST setting screen.
- Press (D) to toggle between Daylight Saving Time (ON displayed) and Standard Time (OFF displayed).
 - Note that you cannot switch between Standard Time and Daylight Saving Time (DST) while UTC is selected as your Local Time City.
- Press (A) to exit the setting screen.
 - The DST indicator will be in the upper left corner of the display while Daylight Saving Time is enabled.

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Swapping your Home City and Local Time City

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

To swap your Home City and Local Time City

- In the Timekeeping Mode, select the Local Time City you want.
 - For information about selecting a Local Time City, see "To specify the Local Time City" (page E-18).
- Hold down **(B)** for at least four seconds.
 - This will make the Local Time City (which you selected in step 1) your Home City.
 - At the same time, it will change the Home City you had selected prior to step 2 to your Local Time City.

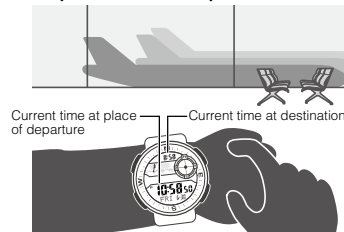
Using the Watch when Travelling Between Time Zones

You can use the procedures below for smooth switching between time zones as required.

E-20

Before Setting Out

Set your destination city as the Local Time City.

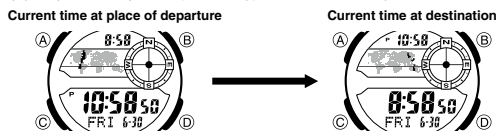


- For information about selecting a Local Time City, see "To specify the Local Time City" (page E-18).

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Before Arriving at Your Destination

Swap your place of departure (Home City) and Local Time City.



- For information about selecting a Local Time City, see "To specify the Local Time City" (page E-18).

E-22

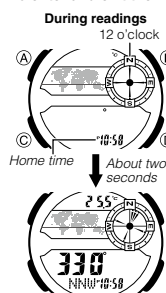
Digital Compass/Thermometer

You can take direction readings and temperature readings in the Digital Compass/Thermometer Mode. Direction readings are taken by the watch's built-in magnetic bearing sensor and displayed as one of 16 directions. A temperature sensor is used for temperature readings.

- See "Digital Compass" on page E-26 for more information about the digital compass.
- See "Thermometer" on page E-41 for more information about the thermometer.

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To enter and exit the Digital Compass/Thermometer Mode



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- While in the Timekeeping Mode, press **(D)** to enter the Digital Compass/Thermometer Mode.
 - The watch will start to take direction and temperature readings. After about two seconds, the angle that the 12 o'clock position of the compass dial is facing and the current temperature reading will appear on the display.
 - Direction readings will be taken each second for about 10 seconds, and then stop automatically.
 - Temperature readings will be taken every two seconds for about 10 seconds, and then stop automatically.
 - To perform direction and temperature readings for another 10 seconds, press **(D)** again.

- Press **(C)** to return to the Timekeeping Mode.

- For information about using the digital compass, see "To take a direction reading" on page E-27.
- For information about using the thermometer, see "To take a temperature reading" on page E-42.

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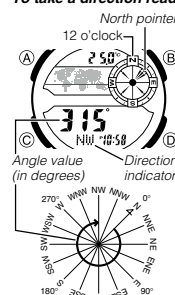
Digital Compass

The watch takes digital compass readings automatically whenever you enter the Digital Compass/Thermometer Mode. In addition, you can take readings manually by performing the procedure below.

- See "Magnetic North and True North" (page E-39) for information about the two types of north. For information about maximizing digital compass accuracy, see "Calibrating the Bearing Sensor" (page E-33) and "Digital Compass Precautions" (page E-39).

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To take a direction reading



- While the watch is in the Digital Compass/Thermometer Mode, place it on a flat surface, or if you are wearing the watch, make sure that your wrist is horizontal (in relation to the horizon).
- Point the 12 o'clock position of the compass dial in the direction you want to measure.
- Press **(D)** to start a Digital Compass measurement operation.
 - After about two seconds, the direction that the 12 o'clock position of the compass dial is pointing appears on the display.
 - The compass dial's pointer indicates magnetic north.
 - After the first reading is obtained, the watch continues to take direction readings automatically each second, for up to 10 seconds.
 - To perform direction readings for another 10 seconds, press **(D)** again.

E-27

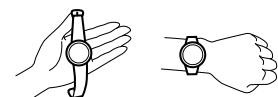


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- While the watch is taking compass readings, it displays a direction angle and a direction indicator, both of which change dynamically when the watch is moved. After the compass operation is complete, the direction pointer disappears from the display, and the direction angle and direction indicator both show "---". Use the direction indicators marked around the compass dial to record the indicated direction. For details, see "Example: Determining your current position and your objective on a map" (page E-31).
- The **CAL** appearing on the display after a direction reading is complete indicates that bearing sensor calibration is required due to either of the reasons described below. When this happens, perform the procedure under "Calibrating the Bearing Sensor" (page E-33).
 - It's been 100 days since the last bearing sensor calibration.
 - The watch's battery was replaced.

Note

- Note that taking a measurement while the watch is not horizontal (in relation to the horizon) can result in large measurement error.



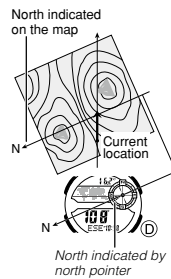
- The margin of error for the angle value and the direction indicator is ± 15 degrees. If the indicated direction is northwest (**NW**) and 315 degrees, for example, the actual direction can be anywhere from 300 to 330 degrees.
- Any ongoing direction measurement operation is paused temporarily while the watch is performing an alert operation (daily alarm, Hourly Time Signal, countdown timer alarm) or while illumination is turned on (by pressing **(B)**). The measurement operation resumes for its remaining duration after the operation that caused it to pause is finished.
- The following table shows the meanings of each of the direction abbreviations that appear on the display.

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Direction	Meaning	Direction	Meaning	Direction	Meaning	Direction	Meaning
N	North	NNE	North-northeast	NE	Northeast	ENE	East-northeast
E	East	ESE	East-southeast	SE	Southeast	SSE	South-southeast
S	South	SSW	South-southwest	SW	Southwest	WSW	West-southwest
W	West	WNW	West-northwest	NW	Northwest	NNW	North-northwest

* See "Digital Compass Precautions" on page E-39 for other important information about taking direction readings.

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Example: Determining your current position and your objective on a map

Having an idea of your current location and the direction to your destination is important when mountain climbing or hiking. In this example, we show you how to plot directions on a map and determine your current location using direction measurements taken by the watch.

1. With the watch on your wrist, position it so the face is horizontal.
2. In the Timekeeping Mode, press **(D)** to take a compass reading.
 - * The reading will appear on the display after about two seconds.

3. Rotate the map without moving the watch so the northerly direction indicated on the map matches north as indicated by the watch.
 - * If the watch is configured to indicate magnetic north, align the map's magnetic north with the watch indication. If the watch has been configured with a declination to correct to true north, align the map's true north with the watch indication.
 - * This will position the map in accordance with your current location.

4. Determine your location as you check the geographic contours around you.

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Calibrating the Bearing Sensor

If you feel that direction readings being produced by the watch are not correct for some reason, you can calibrate the bearing sensor to correct them. You can use either of two methods to calibrate the bearing sensor: bearing sensor correction or magnetic declination correction.

You also need to calibrate the bearing sensor if 100 days pass without calibration, and after you have the watch's battery replaced. The message **CAL** will appear on the display to remind you to calibrate.

* Bearing Sensor Correction

With bearing sensor correction, you rotate the watch in accordance with the movement of an on-screen indicator. Doing this will recalibrate the magnetic sensor of the watch with magnetic north for the area where you are located.

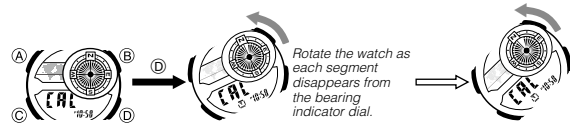
* Magnetic Declination Correction

With magnetic declination correction, you input a magnetic declination angle (difference between magnetic north and true north), which allows the watch to indicate true north. You can perform this procedure when the magnetic declination angle is indicated on the map you are using.

Note that you can input the declination angle in degree units only, so you may need to round off the value specified on the map. If your map indicates the declination angle as 7.4°, you should input 7°. In the case of 7.6° input 8°, for 7.5° you can input 7° or 8°.

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To calibrate the bearing sensor



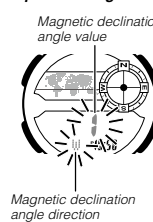
1. Remove the watch from your wrist, and position it so its back is parallel with the ground and the 12 o'clock position of the compass dial is pointed away from you.
2. In the Digital Compass/Thermometer Mode hold down **(A)** until all the segments are displayed in the bearing indicator dial.
3. Press **(D)**.
 - * This will cause the segments of the dial to disappear in clockwise sequence one-by-one.

4. As each dial segment disappears, rotate the watch so the neighboring segment (to the right) is pointed north.
 - * After you complete rotation for one full set of segments, all segments will re-appear and start disappearing again.

5. Repeat step 4 for the second set of segments.
 - * The calibration operation ends automatically after two sets of segment (two full watch rotations) are complete. Either **OK** (successful) or **ERR** (unsuccessful) will appear on the display. Press **(A)** to complete the procedure or **(D)** to calibrate again.
 - * To stop a bearing sensor correction operation part way through, press **(D)** and then **(A)**.

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To perform magnetic declination correction



1. In the Digital Compass/Thermometer Mode, hold down **(A)** until the **CAL** starts to flash on the display. This is the calibration screen.
2. Press **(C)**.
 - * The magnetic declination angle and magnetic declination angle direction will flash on the display.
3. Use **(D)** (+) and **(E)** (-) to change the magnetic declination angle and magnetic declination angle direction settings.

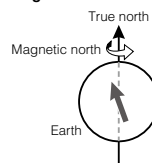
- * You can select a value within the range of **90° W** to **90° E** with these settings.
- * The following explains magnetic declination angle direction settings.
 - 0 OFF:** No magnetic declination correction performed. The magnetic declination angle with this setting is 0°.
 - E:** When magnetic north is to the east (east declination)
 - W:** When magnetic north is to the west (west declination)
- * You can turn off (**0 OFF**) magnetic declination correction (which effectively makes the magnetic declination angle: 0°) by pressing **(D)** and **(E)** at the same time.
- * The illustration on page E-37, for example, shows the value you should input and the direction setting you should select when the map shows a magnetic declination of 1° West.

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

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Digital Compass Precautions

Magnetic North and True North



The northerly direction can be expressed either as magnetic north or true north, which are different from each other. Also, it is important to keep in mind that magnetic north moves over time.

- * Magnetic north is the north that is indicated by the needle of a compass.
- * True north, which is the location of the North Pole of the Earth's axis, is the north that is normally indicated on maps.
- * The difference between magnetic north and true north is called the "declination". The closer you get to the North Pole, the greater the declination angle.

E-39

Location

- Taking a direction reading when you are near a source of strong magnetism can cause large errors in readings. Because of this, you should avoid taking direction readings while in the vicinity of the following types of objects: permanent magnets (magnetic necklaces, etc.), concentrations of metal (metal doors, lockers, etc.), high tension wires, aerial wires, household appliances (TVs, personal computers, washing machines, freezers, etc.)
- Accurate direction readings are impossible while in a train, boat, air plane, etc.
- Accurate readings also are impossible indoors, especially inside ferro-concrete structures. This is because the metal framework of such structures picks up magnetism from appliances, etc.

E-40

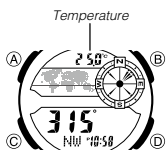
Storage

- The precision of the bearing sensor may deteriorate if the watch becomes magnetized. Because of this, you should be sure to store the watch away from magnets or any other sources of strong magnetism, including: permanent magnets (magnetic necklaces, etc.) and household appliances (TVs, personal computers, washing machines, freezers, etc.)
- Whenever you suspect that the watch may have become magnetized, perform one of the calibration procedures under "Calibrating the Bearing Sensor" (page E-33).

Thermometer

- The watch takes temperature readings automatically whenever you enter the Digital Compass/Thermometer Mode.
- You can calibrate the temperature sensor (page E-43) if you think readings are wrong for some reason.
 - You can select either Celsius (°C) or Fahrenheit (°F) as the temperature unit (page E-46).

To take a temperature reading



- In the Digital Compass/Thermometer Mode, press (D).
- This will display the temperature reading.
 - After the first reading, the watch will continue to take readings every two seconds for about 10 seconds.
 - After the temperature reading is complete, the temperature display will show "--".
 - To perform temperature readings for another 10 seconds, press (D) again.
 - The temperature is displayed in units of 0.1°C (or 0.2°F).
 - The display range of the thermometer screen is -10.0°C to 60.0°C (or 14.0°F to 140.0°F). The temperature display will show "--" if a temperature reading is outside the allowable range.

Important!

- Temperature measurements are affected by your body temperature (while you are wearing the watch), direct sunlight, and moisture. To achieve a more accurate temperature measurement, remove the watch from your wrist, place it in a well ventilated location out of direct sunlight, and wipe all moisture from the case. It takes approximately 20 to 30 minutes for the case of the watch to reach the actual surrounding temperature.

Temperature Sensor Calibration

The temperature sensor built into the watch is calibrated at the factory, and normally does not need any adjustment. However, if you feel that readings being produced by the watch are not correct for some reason, you can calibrate the temperature sensor to correct them.

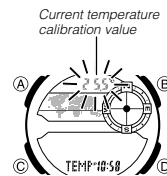
E-42

E-43

Important!

- Incorrectly calibrating the temperature sensor can result in incorrect readings. Carefully read the following before doing anything.
 - Compare the readings produced by the watch with those of another reliable and accurate thermometer.
 - If adjustment is required, remove the watch from your wrist and wait for approximately 20 or 30 minutes to give the temperature of the watch time to stabilize.

To calibrate the temperature sensor

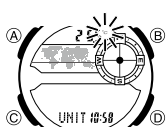


1. In the Digital Compass/Thermometer Mode, hold down (A) until CAL starts to flash on the display.
2. Press (C) twice and the current temperature calibration value will flash on the display. This is the temperature sensor calibration screen.
3. Use (D) (+) and (B) (-) to change the calibration value.
 - To return the temperature sensor to its factory default calibration, press (D) and (B) at the same time.
4. To exit the calibration screen, press (A).

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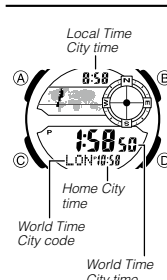
E-45

To specify the temperature display unit



1. In the Digital Compass/Thermometer Mode, hold down (A) until CAL starts to flash on the display.
2. Press (C) three times and the current temperature display unit will flash on the display. This is the temperature display unit setting screen.
3. Use (D) to switch between Celsius (°C) and Fahrenheit (°F).
 - You will not be able to change the temperature display unit if TYO (Tokyo) is selected as your Home City.
4. Press (A) to exit the setting screen.

World Time



- The World Time Mode lets you look up the current time in a third city, which can be any one of 48 cities (31 time zones) around the world, or the UTC. This is in addition to your more commonly used Home City and Local Time City times displayed in the Timekeeping Mode. You can also use the World Time Mode to simultaneously display the current time in your Home City, Local Time City, and World Time City.
- If the current time shown for a city is wrong, check your Home City time settings and make the necessary changes (page E-12).
 - You also can swap the current World Time City and Local Time City in the World Time Mode (page E-49).
 - All of the operations in this section are performed in the World Time Mode, which you enter by pressing (C) (page E-9).

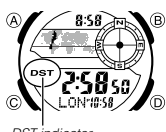
E-46

E-47

To view the time in another city

- In the World Time Mode, use (D) (east) to scroll through city codes (time zones).
- For full information on city codes, see the "City Code Table" at the back of this manual.

To toggle a city code time between Standard Time and Daylight Saving Time



1. In the World Time Mode, use (D) (east) to display the city code (time zone) whose Standard Time/Daylight Saving Time setting you want to change.
2. Hold down (A) to toggle between Daylight Saving Time (DST indicator displayed) and Standard Time (DST indicator not displayed).
 - The DST indicator appears on the display whenever you display a city code for which Daylight Saving Time is turned on.
 - Note that you cannot switch between Standard Time and Daylight Saving Time (DST) while UTC is selected as your World Time City.

- Note that the DST/Standard Time setting affects only the currently displayed city code. Other city codes are not affected.

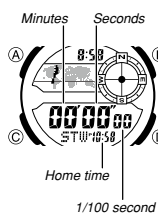
To swap your World Time City and Local Time City

1. In the World Time Mode, select the Local Time City you want.
 - For information about selecting a Local Time City, see "To specify the Local Time City" (page E-18).
2. Hold down (B) for at least four seconds.
 - This will make the Local Time City (which you selected in step 1) your World Time City. At the same time, it will change the World Time City you had selected prior to step 2 to your Local Time City.
 - After swapping the World Time City and Local Time City, the watch stays in the World Time Mode with the city that was selected as the World Time City prior to step 2 now displayed as the Local Time City.

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Stopwatch



The stopwatch lets you measure elapsed time, split times, and two finishes.

- The display range of the stopwatch is 59 minutes, 59.99 seconds.
- The stopwatch continues to run, restarting from zero after it reaches its limit, until you stop it.
- The stopwatch measurement operation continues even if you exit the Stopwatch Mode.
- Exiting the Stopwatch Mode while a split time is frozen on the display clears the split time and returns to elapsed time measurement.
- All of the operations in this section are performed in the Stopwatch Mode, which you enter by pressing (C).

E-50

To measure times with the stopwatch

Elapsed Time



Split Time

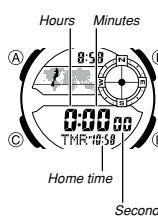


Two Finishes



E-51

Countdown Timer



You can set the countdown timer within a range of one minute to 24 hours. An alarm sounds when the countdown reaches zero.

- You also can select auto-repeat, which automatically restarts the countdown from the original value you set whenever zero is reached.
- All of the operations in this section are performed in the Countdown Timer Mode, which you enter by pressing (C) (page E-9).

E-52

To configure countdown start time and auto-repeat settings



- While the countdown start time is on the display in the Countdown Timer Mode, hold down (A) until the hour setting of the countdown start time starts to flash, which indicates the setting screen.
 - If the countdown start time is not displayed, use the procedure under "To use the countdown timer" (page E-54) to display it.
- Press (C) to move the flashing in the sequence shown below, and select the setting you want to change.
- Perform the following operations, depending on which setting is currently selected on the display.
 - While the start time setting is flashing, use (D) (+) and (B) (-) to change it. Set 0:00 to specify 24 hours.

E-53

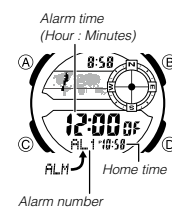
- While the auto-repeat on/off setting (ON or OFF) is flashing on the display, press (D) to toggle auto-repeat on (ON) and off (OFF).
- Press (A) to exit the setting screen.
 - The auto-repeat on indicator (AL) is displayed on the Countdown Timer Mode screen while this function is turned on.
 - Frequent use of auto-repeat and the alarm can run down battery power.

To use the countdown timer

- Press (D) while in the Countdown Timer Mode to start the countdown timer.
- When the end of the countdown is reached and auto-repeat is turned off, the alarm sounds for 10 seconds or until you stop it by pressing any button. The countdown time is automatically reset to its starting value after the alarm stops.
 - When auto-repeat is turned on, the countdown will restart automatically without pausing when it reaches zero. The alarm sounds to signal when the countdown reaches zero.
 - The countdown timer measurement operation continues even if you exit the Countdown Timer Mode.
 - To stop a countdown operation completely, first pause it (by pressing (D)), and then press (A). This returns the countdown time to its starting value.

E-54

Alarms



The Alarm Mode gives you a choice of four daily alarms and one snooze alarm. Also use the Alarm Mode to turn the hourly time signal (SIG) on and off.

- There are five alarms numbered AL1 through AL4, and SNZ. You can configure SNZ as a snooze alarm only. Alarms AL1 through AL4 can be used as daily alarms only.
- When you enter the Alarm Mode, the data you were viewing when you last exited the mode appears first.
- All of the operations in this section are performed in the Alarm Mode, which you enter by pressing (C) (page E-9).

E-55

To set an alarm time



- In the Alarm Mode, use (D) to scroll through the alarm screens until the one whose time you want to set is displayed.

- Hold down (A) until the hour setting of the alarm time starts to flash, which indicates the setting screen.
 - This automatically turns on the alarm.
- Press (C) to move the flashing between the hour and minute settings.
- While a setting is flashing, use (D) (+) and (B) (-) to change it.
 - When setting the alarm time using the 12-hour format, take care to set the time correctly as a.m. (no indicator) or p.m. (P indicator).
- Press (A) to exit the setting screen.

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Alarm Operation

The alarm tone sounds at the preset time for 10 seconds, regardless of the mode the watch is in. In the case of the snooze alarm, the alarm operation is performed a total of seven times, every five minutes, until you turn the alarm off (page E-58).

- Alarm and hourly time signal operations are performed in accordance with the Timekeeping Mode time.
- To stop the alarm tone after it starts to sound, press any button.
- Performing any one of the following operations during a 5-minute interval between snooze alarms cancels the current snooze alarm operation.
 - Displaying the Timekeeping Mode setting screen (page E-12)
 - Displaying the SNZ setting screen (page E-56)
 - Swapping the Home City time and Local Time City time in the Timekeeping Mode (page E-20)
 - Changing the DST setting for a city in the World Time Mode while the same city is selected for the Home City (page E-48)

To test the alarm

In the Alarm Mode, hold down (D) to sound the alarm.

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To turn an alarm and the hourly time signal on and off

- In the Alarm Mode, use (D) to select an alarm or the hourly time signal.
- When the alarm or the hourly time signal you want is selected, press (A) to toggle it on and off.
 - ||| : Indicates alarm is on.
 - SNZ ||| : Indicates snooze alarm is on.
 - Q : Indicates Hourly Time Signal is on.
 - The alarm on indicator (|||), snooze on indicator (SNZ |||), and hourly time signal on indicator (Q) are displayed on all modes.
 - If any alarm is on, the alarm on indicator is shown on the display in all modes.

E-58

Illumination



This watch has an EL (electro-luminescent) panel that causes the entire display to glow for easy reading in the dark.

- The electro-luminescent panel that provides illumination loses power after very long use.
- Illumination may be hard to see when viewed under direct sunlight.
- The watch may emit an audible sound whenever the display is illuminated. This is due to vibration of the EL panel used for illumination, and does not indicate malfunction.
- Illumination turns off automatically whenever an alarm sounds.
- Frequent use of illumination runs down the battery.

E-59

To turn on illumination

In any mode (except when a setting screen is on the display), press **(B)** to illuminate the display for about one second.

To change the illumination duration



- In the Timekeeping Mode, hold down **(A)** for about two seconds until the time zone of the currently selected Home City starts to flash on the world map. This is the setting screen.
 - Release **(A)** immediately after the Home City code appears. Keeping it depressed longer (about four seconds) will switch to the Local Time City setting screen.
- Press **(C)** 10 times to display the illumination duration setting screen.
 - See the sequence in step 3 of the procedure under "To set your Home City time and date" (page E-12) for information about how to scroll through setting screens.

- Press **(D)** to toggle the illumination duration between three seconds (**3** displayed) and 1.5 seconds (**1** displayed).
- Press **(A)** to exit the setting screen.

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E-61

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 Feature

- The watch will return to the Timekeeping Mode automatically if you do not perform any operation for about two or three minutes while in the Digital Compass/Thermometer Mode or Alarm Mode.
- If you leave a screen with flashing digits on the display without performing any operation for two or three minutes, the watch saves any settings you have made up to that point and exits the setting screen automatically.

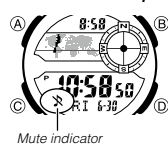
Button Operation Tone

The button operation tone sounds any time you press one of the watch's buttons. You can turn the button operation tone on or off as desired.

- Even if you turn off the button operation tone, the alarm, hourly time signal, and Countdown Timer Mode alarm all operate normally.

E-62

To turn the button operation tone on and off



- In the Timekeeping Mode, hold down **(A)** for about two seconds until the time zone of the currently selected Home City starts to flash on the world map. This is the setting screen.
 - Release **(A)** immediately after the Home City code appears. Keeping it depressed longer (about four seconds) will switch to the Local Time City setting screen.
- Press **(C)** nine times to display the button operation tone setting.
 - See the sequence in step 3 of the procedure under "To set your Home City time and date" (page E-12) for information about how to scroll through setting screens.
- Press **(D)** to toggle the button operation tone on (**⌘** not displayed) and off (**⌘** displayed).

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- Press **(A)** to exit the setting screen.

- The **⌘** indicator is displayed in all modes when the button operation tone is turned off.

Data and Setting Scrolling

The **(B)** and **(D)** buttons are used in various modes and setting screens to scroll through data on the display. In most cases, holding down these buttons during a scroll operation scrolls through the data at high speed.

Sensor Error and Low Battery Displays

Subjecting the watch to strong impact can damage the sensor or cause internal connection problems. These conditions will cause **ERR** (error) to appear on the display, indicating that sensor operation is disabled. Sensor operation is also disabled whenever **BATT** (battery) is on the display, which indicates insufficient battery power or voltage due to a low battery or a cold environment.

- If an error occurs or the battery goes low during sensor operation, **ERR** or **BATT** will appear in the lower left of the display for about 10 seconds, and then change to ---.
- If an error occurs or the battery goes low during bearing sensor correction, **ERR** or **BATT** will appear in the lower left of the display for about one second, and then the calibration screen will appear. Try performing calibration again.
- If an error occurs or the battery goes low during temperature sensor calibration, **ERR** or **BATT** will appear on the display for about one second. Next, --- will flash for the temperature value in the lower part of the display. This indicates that temperature sensor calibration is not possible. Press **(A)** to exit the calibration screen, and then try performing temperature sensor calibration again.
- If the **ERR** message appears frequently, it could mean the sensor is malfunctioning.

Whenever you have a sensor malfunction, be sure to take the watch to your original dealer or nearest authorized CASIO distributor as soon as possible.

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E-65

Timekeeping

- Resetting the seconds to **00** while the current count is in the range of 30 to 59 causes the minutes to be increased by 1. In the range of 00 to 29, the seconds are reset to **00** without changing the minutes.
- With the 12-hour format, the **P** (PM) indicator appears on the display for times in the range of noon to 11:59 p.m. and no indicator appears for times in the range of midnight to 11:59 a.m.
- With the 24-hour format, times are displayed in the range of 0:00 to 23:59, without any indicator.
- The year can be set in the range of 2000 to 2099.
- 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.

E-66

Specifications

Accuracy at normal temperature: ± 20 seconds a month

Timekeeping: Hour, minutes, seconds, p.m. (P), month, day, day of the week
Time format: 12-hour and 24-hour

Calendar system: Full Auto-calendar pre-programmed from the year 2000 to 2099
Other: Home City code (can be assigned one of 48 city codes); Daylight Saving Time (summer time)/Standard Time; Simultaneous Home Time/Local Time; Home City/Local Time City swapping

Digital Compass:

16 directions; Angle values from 0° to 359°; North pointer
Reading Timing: Continuous operation every second for 10 seconds
Other: Bearing sensor correction; Magnetic declination correction

Thermometer:

Measurement and Display Range: -10.0°C to 60.0°C (or 14.0°F to 140.0°F)
Display Unit: 0.1°C (or 0.2°F)
Reading Timing: Continuous operation every two seconds for 10 seconds
Other: Temperature sensor calibration

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World Time: 48 cities (31 time zones); **UTC;** World Time City/Local Time City swapping
Other: Standard time/Daylight Saving Time

Stopwatch:

Measuring unit: 1/100 second
Measuring capacity: 59' 59.99"
Measuring modes: Elapsed time, split time, two finishes

Countdown Timer:

Measuring unit: 1 second
Input range: 1 minute to 24 hours (1-minute increments and 1-hour increments)
Other: Auto-repeat timing

Alarms: 5 daily alarms (with 1 snooze alarm); Hourly time signal

Illumination: EL (electro-luminescent panel); Selectable illumination duration (approximately 1.5 seconds or 3 seconds)

Other: Button operation tone on/off

Battery: One lithium battery (Type: CR2025)

Approximately 5 years on type CR2025 (Alarm operation 10 seconds/day; Illumination operation 1.5 seconds/day; Direction reading operation 20 seconds/day; temperature reading operation 20 seconds/day)

Frequent use of the light shortens the battery life.

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City Code Table

City Code	City	UTC Offset/ GMT Differential	City Code	City	UTC Offset/ GMT Differential
PPG	Pago Pago	-11.0	YHZ	Halifax	-04.0
HNL	Honolulu	-10.0	YYT	St. Johns	-03.5
ANC	Anchorage	-09.0	BUE	Bueno Aires	-03.0
YVR	Vancouver	-08.0	RIO	Rio De Janeiro	-02.0
LAX	Los Angeles	-08.0	FEN	F. De Noronha	-01.0
YEA	Edmonton	-07.0	RAI	Praia	-01.0
DEN	Denver	-07.0	UTC	-	+00.0
MEX	Mexico City	-06.0	LIS	Lisbon	+00.0
CHI	Chicago	-06.0	LON	London	+00.0
NYC	New York	-05.0			

L-1

City Code	City	UTC Offset/ GMT Differential
MAD	Madrid	+01.0
PAR	Paris	
ROM	Rome	
BER	Berlin	
STO	Stockholm	
ATH	Athens	+02.0
CAI	Cairo	
JRS	Jerusalem	+03.0
MOW	Moscow	
JED	Jeddah	
THR	Tehran	+03.5
DXB	Dubai	+04.0

L-2

City Code	City	UTC Offset/ GMT Differential
KBL	Kabul	+04.5
KHI	Karachi	+05.0
DEL	Delhi	+05.5
KTM	Kathmandu	+05.75
DAC	Dhaka	+06.0
RGN	Yangon	+06.5
BKK	Bangkok	+07.0
SIN	Singapore	+08.0
HKG	Hong Kong	
BJS	Beijing	
TPE	Taipei	

City Code	City	UTC Offset/ GMT Differential
SEL	Seoul	+09.0
TYO	Tokyo	
ADL	Adelaide	+09.5
GUM	Guam	+10.0
SYD	Sydney	
NOU	Noumea	+11.0
WLG	Wellington	+12.0

- * Based on data as of January 2016.
- * The rules governing global times (GMT differential and UTC offset) and summer time are determined by each individual country.

L-3