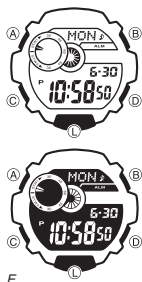


Operation Guide 3422

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.

E

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Alarms.....	E-21
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Illumination.....	E-31
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E-1

Procedure Lookup

The following is a handy reference list of all the operational procedures contained in this manual.

To set the time and date.....	E-7
To toggle the Timekeeping Mode time between DST and Standard Time.....	E-10
To toggle between 12-hour and 24-hour timekeeping.....	E-11
To measure times with the stopwatch (Stopwatch Mode (ST1) and Stopwatch Mode (ST2)).....	E-13
To use Auto-Start (ST1).....	E-14
To configure the countdown timer.....	E-18
To use the countdown timer.....	E-20
To set an alarm time.....	E-23
To test the alarm.....	E-26
To turn an alarm on and off.....	E-27
To turn the Hourly Time Signal on and off.....	E-28

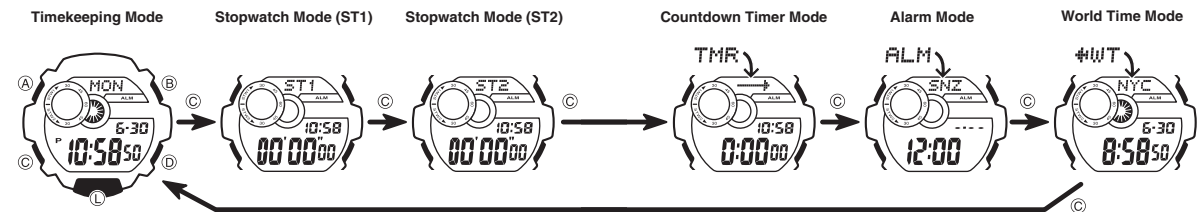
E-2

To view the time for another city code.....	E-29
To toggle a city code time between Standard Time and Daylight Saving Time.....	E-30
To illuminate the display.....	E-32
To specify the illumination duration.....	E-32
To turn the auto light switch on and off.....	E-34
To turn the button operation tone on and off.....	E-37

E-3

General Guide

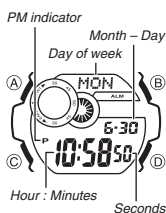
- Press C to change from mode to mode.
- In any mode, press L to illuminate the display.



E-4

E-5

Timekeeping

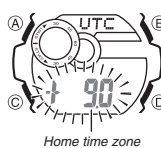


Use the Timekeeping Mode to set and view the current time and date.

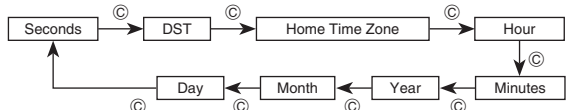
Read This Before You Set the Time and Date!
The times displayed in the Timekeeping Mode and World Time Mode are linked. Because of this, make sure you select a Home Time zone before you set the time and date.

E-6

To set the time and date



- In the Timekeeping Mode, hold down A until the seconds start to flash, which indicates the setting screen.
- Press C to move the flashing in the sequence shown below to select other settings.



E-7

3. When the setting you want to change is flashing, use D and B to change it as described below.

Screen	To do this:	Do this:
50	Reset the seconds to 00	Press D.
DF F	Toggle between Daylight Saving Time (DF) and Standard Time (DF F)	Press D.
+ 90	Specify the UTC offset	Use D (+) and B (-).
" 10:58	Change the hour or minutes	Use D (+) and B (-).
20 14	Change the year	
6:30	Change the month or day	

- See "Daylight Saving Time (DST)" on page E-9 for details about DST setting.
- The UTC offset setting range is -12.0 to +14.0, in 0.5-hour units.

E-8

- When DST is turned on, the UTC offset setting range is -11.0 to +15.0, in 0.5-hour units.
- Press A to exit the setting screen.
- The day of the week is displayed automatically in accordance with the date (year, month, and day) settings.

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.

E-9

To toggle the Timekeeping Mode time between DST and Standard Time

DST indicator



1. In the Timekeeping Mode, hold down (A) until the seconds start to flash, which indicates the setting screen.
 2. Press (C) to display the DST setting screen.
 3. Press (D) to toggle between Daylight Saving Time (DST displayed) and Standard Time (ST F displayed).
 4. Press (A) to exit the setting screen.
- The DST indicator appears on the display to indicate that Daylight Saving Time is turned on.
 - Note that the Standard Time/Daylight Saving Time setting affects only the currently displayed city code. Other city codes are not affected.

E-10

To toggle between 12-hour and 24-hour timekeeping

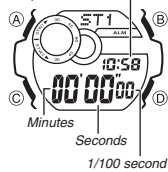
In the Timekeeping Mode, press (D) to toggle between 12-hour timekeeping and 24-hour timekeeping.

- With the 12-hour format, the P (PM) indicator appears to the left of the hour digits for times in the range of noon to 11:59 p.m. and no indicator appears to the left of the hour digits 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 12-hour/24-hour timekeeping format you select in the Timekeeping Mode is applied in all other modes.
- The P indicator is not displayed when the current time is displayed in other modes.

E-11

Stopwatches

Timekeeping Mode time
*During stopwatch elapsed time measurement, shows the number of hours elapsed.



Your watch has two stopwatch modes: Stopwatch Mode (ST1) and Stopwatch Mode (ST2). Both stopwatch modes let you measure elapsed time, split times, and two finishes. The Stopwatch Mode (ST1) includes Auto-Start.

- A display range of the stopwatch is 999 hours, 59 minutes, 59.99 seconds.
- A stopwatch continues to run, restarting from zero after it reaches its limit, until you stop it.
- A stopwatch measurement operation continues even if you exit a Stopwatch Mode.
- Exiting a 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 (ST1) or Stopwatch Mode (ST2), which you enter by pressing (C) (page E-4).

E-12

To measure times with the stopwatch (Stopwatch Mode (ST1) and Stopwatch Mode (ST2))

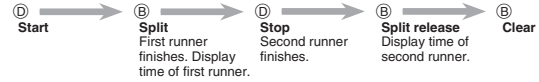
Elapsed Time



Split Time



Two Finishes

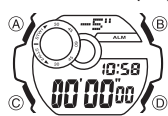


E-13

About Auto-Start (Stopwatch Mode (ST1))

With Auto-Start, the watch performs a 5-second countdown, and stopwatch operation starts automatically when the countdown reaches zero. During the final three seconds of the countdown, a beeper sounds with each second.

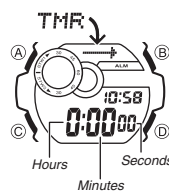
To use Auto-Start (ST1)



1. While the stopwatch screen is showing all zeros in the Stopwatch Mode, press (B).
 - This displays a 5-second countdown screen.
 - To return to the all zeros screen, press (B) again.
2. Press (D) to start the countdown.
 - When the countdown reaches zero, a tone sounds and a stopwatch timing operation starts automatically.
 - Pressing (D) while the Auto-Start countdown is in progress starts the stopwatch immediately.

E-14

Countdown Timer



The countdown timer can be set within a range of one minute to 24 hours. An alarm sounds when the countdown reaches zero. The countdown timer also has an auto-repeat feature and a progress beeper that signals the progress of the countdown.

- All of the operations in this section are performed in the Countdown Timer Mode, which you enter by pressing (C) (page E-5).

Configuring the Countdown Timer

The following are the settings you should configure before actually using the countdown timer.
Countdown start time; Auto-repeat on/off; Progress beeper on/off

- See "To configure the countdown timer" (page E-18) for information about setting up the timer.

E-15

Auto-repeat

When auto-repeat is turned on, the countdown restarts automatically from the countdown start time when it reaches zero. When auto-repeat is turned off, the countdown stops when it reaches zero and the display shows the original countdown start time.

- Pressing (D) while an auto-repeat countdown is in progress pauses the current countdown. You can resume the auto-repeat countdown by pressing (D), or you can press (A) to reset to the countdown time starting value.

Countdown Timer Beeper Operations

The watch beeps at various times during a countdown so you can keep informed about the countdown status without looking at the display. The following describes the types of beeper operations the watch performs during a countdown.

Countdown End Beeper

The countdown end beeper lets you know when the countdown reaches zero.

- When the progress beeper is turned off, the countdown end beeper sounds for about 10 seconds, or until you press any button to stop it.
- When the progress beeper is turned on, the countdown end beeper sounds for about one second.

E-16

Progress Beeper

When the progress beeper is turned on, the watch uses beeps to signal countdown progress as described below.

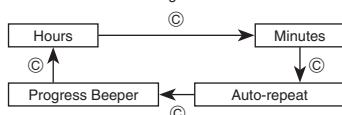
- Starting from five minutes before the end of the countdown, the watch emits four short beeps at the top of each countdown minute.
- 30 seconds before the end of the countdown, the watch emits four short beeps.
- The watch emits a short beep for each of the last 10 seconds of the countdown.
- If the countdown start time is six minutes or greater, the watch emits a short beep for each second of the final 10 seconds before the five-minute point is reached. Four short beeps are emitted to signal when the five-minute point is reached.

E-17

To configure the countdown timer



1. While the countdown start time is on the display in the Countdown Timer Mode, hold down (A) until the current 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-20) to display it.
2. Press (C) to move the flashing in the sequence shown below to select other settings.



E-18

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

Setting	Screen	Button Operation
Hours, Minutes	0:00	Use (D) (+) and (B) (-) to change the setting.
Auto-repeat	OFF	Press (D) to toggle auto-repeat on (ON displayed) and off (OFF displayed).
Progress Beeper	OFF	Press (D) to toggle the progress beeper on (ON) and off (OFF).

- To specify a countdown start time of 24 hours, set 000.
4. Press (A) to exit the setting screen.
 - You can also perform steps 1 and 2 of the above procedure whenever you need to view the current auto-repeat and progress beeper settings.

E-19

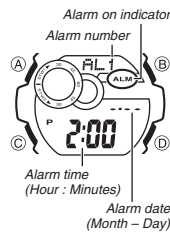
To use the countdown timer



- Press (D) while in the Countdown Timer Mode to start the countdown timer.
- The countdown timer operation continues even if you exit the Countdown Timer Mode.
 - Press (D) while a countdown operation is in progress to pause it. Press (D) again to resume the countdown.
 - To stop a countdown operation completely, first pause it (by pressing (D)), and then press (B). This returns the countdown time to its starting value.

E-20

Alarms



- You can set up to five independent multi-function alarms with hour, minutes, month, and day. When an alarm is turned on, the alarm tone sounds when the alarm time is reached. One of the alarms is a snooze alarm, while the other four are one-time alarms.
- You can also turn on an Hourly Time Signal that causes the watch to beep twice every hour on the hour.
- There are five alarm screens numbered **AL 1**, **AL 2**, **AL 3**, and **AL 4** for the one-time alarm, a snooze alarm screen indicated by **SNZ**. The Hourly Time Signal screen is indicated by **SIG**.
 - All of the operations in this section are performed in the Alarm Mode, which you enter by pressing (C) (page E-5).

E-21

Alarm Types

The alarm type is determined by the settings you make, as described below.

• Daily alarm

Set the hour and minutes for the alarm time. This type of setting causes the alarm to sound everyday at the time you set.

• Date alarm

Set the month, day, hour and minutes for the alarm time. This type of setting causes the alarm to sound at the specific time, on the specific date you set.

• 1-Month alarm

Set the month, hour and minutes for the alarm time. This type of setting causes the alarm to sound everyday at the time you set, only during the month you set.

• Monthly alarm

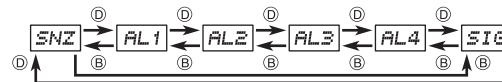
Set the day, hour and minutes for the alarm time. This type of setting causes the alarm to sound every month at the time you set, on the day you set.

E-22

To set an alarm time



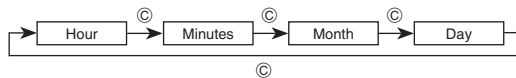
1. In the Alarm Mode, use (D) or (B) to scroll through the alarm screens until the one whose time you want to set is displayed.



- To set a one-time alarm, display an alarm screen **AL 1**, **AL 2**, **AL 3**, or **AL 4**. To set the snooze alarm, display the **SNZ** screen.
- The snooze alarm repeats every five minutes.

E-23

2. After you select an alarm, hold down (A) until the hour setting of the alarm time starts to flash, which indicates the setting screen.
 - This operation turns on the alarm automatically.
3. Press (C) to move the flashing in the sequence shown below to select other settings.



E-24

4. While a setting is flashing, use (D) and (B) to change it as described below.

Screen	To do this:	Do this:
12:00	Change the hour and minutes	Use (D) (+) and (B) (-). • With the 12-hour format, set the time correctly as a.m. or p.m. (P indicator).
---	Change the month and day	• To set an alarm that does not include a month and/or day, set - for each setting.

5. Press (A) to exit the setting screen.

Alarm Operation

The alarm tone sounds at the preset time for 20 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-27).

- 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.

E-25

- 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-7)
 - Displaying the **SNZ** setting screen (page E-23)

To test the alarm

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

E-26

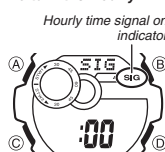
To turn an alarm on and off



1. In the Alarm Mode, use (D) to select an alarm.
 2. Press (A) to toggle it on and off.
- Turning on an alarm (**SNZ**, **AL 1**, **AL 2**, **AL 3**, or **AL 4**) displays the alarm on indicator (**ALM** or **SNZ**).
 - In all modes, the alarm on indicator is shown for alarm that is currently turned on.
 - The alarm on indicator flashes while the alarm is sounding.
 - The snooze alarm indicator (**SNZ**) flashes while the snooze alarm is sounding and during the 5-minute intervals between alarms.

E-27

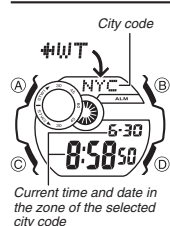
To turn the Hourly Time Signal on and off



1. In the Alarm Mode, use (D) to select the Hourly Time Signal (**SIG**).
 2. Press (A) to toggle it on and off.
- The Hourly Time Signal indicator (**SIG**) is shown on the display in all modes while this function is turned on.

E-28

World Time



World Time shows the current time in 48 cities (29 time zones) around the world.

- All of the operations in this section are performed in the World Time Mode, which you enter by pressing (C) (page E-5).

To view the time for another city code

In the World Time Mode, press (D) to scroll eastwardly through city codes. In the World Time Mode, press (B) to scroll westwardly through city codes.

- For full information about city codes, see the "City Code Table" at the back of this manual.
- If the current time for a city is wrong, check your Timekeeping Mode time and time zone settings and make necessary changes.

E-29

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

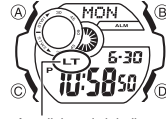
DST indicator



- In the World Time Mode, use (D) (east) and (B) (west) to display the city code (time zone) whose Standard Time/Daylight Saving Time setting you want to change.
- Hold down (A) for about one second to toggle Daylight Saving Time (DST displayed) and Standard Time (DST not displayed).
 - The DST indicator is on the display whenever you display a city code for which Daylight Saving Time is turned on.
 - Note that the DST/Standard Time setting affects only the currently displayed city code. Other city codes are not affected.

E-30

Illumination



Auto light switch indicator

This watch has an LED (light-emitting diode) that cause the entire display to glow for easy reading in the dark. The watch's auto light switch turns on illumination automatically when you angle the watch for reading towards your face.

- The auto light switch must be turned on (indicated by the auto light switch indicator) for it to operate.
- See "Illumination Precautions" (page E-40) for more important information.

E-31

To illuminate the display

In any mode, press (L) to turn on illumination.

- The above operation turns on illumination regardless of the current auto light switch setting.
- You can use the procedure below to select either 3 seconds or 5 seconds as the illumination duration. When you press (L), the illumination will remain on for about 3 seconds or 5 seconds, depending on the current illumination duration setting.

To specify the illumination duration



- In the Timekeeping Mode, hold down (A) until the seconds start to flash, which indicates the setting screen.
- While the seconds are flashing, press (B) to toggle the setting between 3 seconds (+) and 5 seconds (*).
- Press (A) to exit the setting screen.

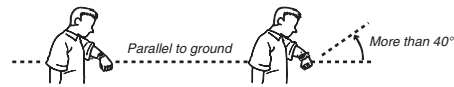
E-32

About the Auto Light Switch

While the auto light switch is enabled, illumination turns on whenever you position your wrist as described below in any mode.

Moving the watch to a position that is parallel to the ground and then tilting it towards you at more than 40 degrees causes illumination to turn on.

- Wear the watch on the outside of your wrist.



E-33

Warning!

- Always make sure you are in a safe place whenever you are reading the watch using the auto light switch. Be especially careful when running or engaged in any other activity that can result in accident or injury. Also take care that sudden illumination by the auto light switch does not startle or distract others around you.
- When you are wearing the watch, make sure that its auto light switch is turned off before riding on a bicycle or operating a motorcycle or any other motor vehicle. Sudden and unintended operation of the auto light switch can create a distraction, which can result in a traffic accident and serious personal injury.

To turn the auto light switch on and off

In the Timekeeping Mode, hold down (B) for about three seconds to toggle the auto light switch on (auto light switch indicator displayed) or off (auto light switch indicator not displayed).

- The auto light switch indicator is on the display in all modes while the auto light switch is turned on.
- In order to protect against running down the battery, the auto light switch turns off automatically approximately six hours after you turn it on.

E-34

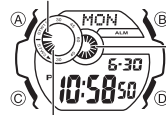
Reference

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.

Graphic Areas

There are three graphic areas named A, B, and C. The information shown in each graphic area depends on the current mode.

Graphic area B



Graphic area A

Graphic area C

E-35

The following table shows the information that appears in graphic area A.

Mode	Graphic Area A
Timekeeping	Timekeeping Mode seconds
World Time	Timekeeping Mode seconds
Stopwatch (ST1 and ST2)	Sweeps from left to right
Countdown Timer	Sweeps from right to left
Alarm	No indication

- In all modes, graphic area B shows the Stopwatch Mode (ST1) minutes (one segment each for 5 minutes, 10 minutes, etc.).
- In all modes, graphic area C shows the Stopwatch Mode (ST2) minutes (one segment each for 5 minutes, 10 minutes, etc.).

E-36

Button Operation Tone

Mute indicator



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 alarms, the Hourly Time Signal, the countdown alarm, and stopwatch auto start all operate normally.

To turn the button operation tone on and off

In any mode (except when a setting screen is on the display), hold down (C) to toggle the button operation tone on (M not displayed) and off (M displayed).

- Holding down (C) to turn the button operation tone on or off also causes the watch's current mode to change.
- The mute indicator is displayed in all modes when the button operation tone is turned off.

E-37

Auto Return Features

- If you leave the watch in the Alarm Mode for two or three minutes without performing any operation, it automatically changes to the Timekeeping Mode.
- If you leave a screen with flashing digits on the display for two or three minutes without performing any operation, the watch automatically exits the setting screen.

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 at high speed.

Initial Screens

When you enter the World Time or Alarm Mode, the data you were viewing when you last exited the mode appears first.

E-38

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.
- 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.

World Time

All World Time Mode times are calculated from the current Home City time in the Timekeeping Mode using UTC time differential values.

- The seconds count of the World Time is synchronized with the seconds count of the Timekeeping Mode.
- The UTC differential is a value that indicates the time difference between a reference point in Greenwich, England and the time zone where a city is located.

E-39

- The letters "UTC" is the abbreviation for "Coordinated Universal Time", which is the world-wide scientific standard of timekeeping. It is based upon carefully maintained atomic (cesium) clocks that keep time accurately to within microseconds. Leap seconds are added or subtracted as necessary to keep UTC in sync with the Earth's rotation.

Illumination Precautions

- Illumination loses power after very long use.
- Illumination may be hard to see when viewed under direct sunlight.
- Illumination turns off automatically whenever an alarm sounds.
- Frequent use of illumination runs down the battery.

Auto light switch precautions

- Avoid wearing the watch on the inside of your wrist. Doing so causes the auto light switch to operate when it is not needed, which shortens battery life. If you want to wear the watch on the inside of your wrist, turn off the auto light switch feature.
 - Illumination may not turn on if the face of the watch is more than 15 degrees above or below parallel. Make sure that the back of your hand is parallel to the ground.
 - Illumination turns off after the preset illumination duration (see "To specify the illumination duration" (page E-32)), even if you keep the watch pointed towards your face.
 - Static electricity or magnetic force can interfere with proper operation of the auto light switch. If illumination does not turn on, try moving the watch back to the starting position (parallel with the ground) and then tilt it back towards you again. If this does not work, drop your arm all the way down so it hangs at your side, and then bring it back up again.



E-40

E-41

- Under certain conditions, illumination may not turn on until about one second after you turn the face of the watch towards you. This does not necessarily indicate malfunction of the auto light switch.
- You may notice a very faint clicking sound coming from the watch when it is shaken back and forth. This sound is caused by mechanical operation of the auto light switch, and does not indicate a problem with the watch.

Specifications

Accuracy at normal temperature: ±15 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 Time zone (selectable in 0.5-hour increments in the range of -12.0 to +14.0); Daylight Saving Time (summer time)/Standard Time

Stopwatch (ST1)

Measuring unit: 1/100 second

Measuring capacity: 999:59' 59.99"

Measuring modes: Elapsed time, split time, two finishes

Other: Auto-Start

Stopwatch (ST2)

Measuring unit: 1/100 second

Measuring capacity: 999:59' 59.99"

Measuring modes: Elapsed time, split time, two finishes

E-42

E-43

Countdown Timer

Measuring unit: 1 second

Input range: 1 minute to 24 hours (1-minute increments and 1-hour increments)

Other: Auto-repeat timing; Progress beeper

Alarms: 5 multi-function* alarms (four one-time alarms; one snooze alarm);

Hourly Time Signal

*Alarm type: Daily alarm, date alarm, 1-month alarm, monthly alarm

World Time: 48 cities (29 time zones)

Other: Daylight Saving Time/Standard Time

Illumination: LED (light-emitting diode); Selectable illumination duration;

Auto Light Switch

Other: Button operation tone on/off

Battery: One lithium battery (Type: CR2016)

Approximately 2 years on type CR2016 (assuming alarm operation 20 seconds per day and one illumination operation 3 seconds per day)

E-44

City Code Table

City Code Table

City Code	City	UTC Offset/ GMT Differential
PPG	Pago Pago	-11
HNL	Honolulu	-10
ANC	Anchorage	-9
LAX	Los Angeles	-8
DEN	Denver	-7
MEX	Mexico City	-6
CHI	Chicago	-5
NYC	New York	-4
CCS*	Caracas	-3.5
YYT	St. Johns	-3
RIO	Rio De Janeiro	-3
BUE	Buenos Aires	-1
RAI	Praia	-1
LON	London	0
DKR	Dakar	0

L-2

City Code	City	UTC Offset/ GMT Differential
MAD	Madrid	
PAR	Paris	
MCM	Monte Carlo	+1
ROM	Rome	
BER	Berlin	
STO	Stockholm	
ATH	Athens	
JNB	Johannesburg	
ANK	Ankara	+2
NIC	Nicosia	
HEL	Helsinki	
CAI	Cairo	
JRS	Jerusalem	
MOW**	Moscow	+3
JED	Jeddah	

City Code	City	UTC Offset/ GMT Differential
THR	Tehran	+3.5
DXB	Dubai	+4
KBL	Kabul	+4.5
KHI	Karachi	+5
DEL	Delhi	+5.5
DAC	Dhaka	+6
RGN	Yangon	+6.5
BKK	Bangkok	+7
SIN	Singapore	
HKG	Hong Kong	+8
BJS	Beijing	
PER	Perth	
SEL	Seoul	+9
TYO	Tokyo	
ADL	Adelaide	+9.5

L-1

L-3

* In December 2007, Venezuela changed its offset from -4 to -4.5. Note, however, that this watch displays an offset of -4 (the old offset) for the CCS (Caracas, Venezuela) city code.

** The above is current as of December 2012. This watch does not reflect the change in the Moscow (MOW) time offset to +4. Because of this, you should leave the summer time setting turned on (which advances the time by one hour) for Moscow (MOW).

- This table shows the city codes of this watch.
- The rules governing global times (UTC offset and GMT differential) and summer time are determined by each individual country.

L-4