## Operation Guide 3420

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 display in this manual are shown using dark figures on a light background.

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

Procedure Lookup
The following is a handy reference list of all the operational procedures contained in this manual
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## General Guide

- Press (c) to change from mode to mode
- In any mode (except when a setting screen is on the display), press (L) to illuminate the display.


Timekeeping


To set the time and date


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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: |
| :---: | :---: | :---: |
| 55 | Reset the seconds to 00 | Press (D). |
| CFF | Toggle between Daylight Saving Time (DI) and Standard Time ( ©F F) | Press (D). |
| + 9 ¢ | Specify your Home Time zone | Use (D) (eastward) and (B) (westward). |
| ${ }^{p} 97.58$ | Change the hour or minutes |  |
| 2II 14 | Change the year | Use (D) (+) and (B) (-). |
| 5-35 | Change the month or day |  |

- For details about time zones, see the "City Code Table" at the back of this manual.
- See "Daylight Saving Time (DST)" on page E-9 for details about the DST settin - For information about Flash Alert, see "Flash Alert" (page E-35).

4. 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.

To toggle the Timekeeping Mode time between DST and Standard Time
 Daylight Saving Time is turned on.

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To toggle between 12-hour and 24 -hour timekeeping
In the Timekeeping Mode, press (D) to toggle between 12-hour timekeeping and
-With the 12-hour format, the $\mathbf{P}(\mathrm{PM})$ 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 $\mathbf{P}$ indicator is not displayed when the current time is displayed in other modes.


## 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 © (page E-4).
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.

To toggle a city code time between Standard Time and Daylight Saving Time 1. In the World Time Mode, use (D) (east) and (B) (west) to display the city code (\%eting you want to change
Hold down (A) for about one second to toggle Day 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.

## Stopwatch

|  | The stopwatch lets you measure elapsed time, split times, and two finishes. It also includes Auto-Start. <br> - The display range of the stopwatch is 23 hours, 59 minutes, 59.99 seconds. <br> - The stopwatch continues to run, restarting from zero after it reaches its limit, until you stop it. <br> - The stopwatch measurement operation continues even if you exit the Stopwatch Mode. <br> - Exiting the Stopwatch Mode while a split time is frozen on the display clears the split time and returns to elapsed time measurement. <br> - All of the operations in this section are performed in the Stopwatch Mode, which you enter by pressing (C) (page E-5). |
| :---: | :---: |

To measure times with the stopwatch
Elapsed Time
Elapsed Time
(D)
Start
Split Time

- The time on the screen may not appear to stop immediately when you press a button to stop timing or to perform a split operation. Despite this, the time recorded by your button operation is accurate

About Auto-Start
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

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 immediately starts the stopwatch.

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 autorepeat 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-19) for information about setting up the timer.


## Auto-repea

When auto-repeat is turned on, the countdown restarts automatically from the countdown start time when it reaches zero. If left running, the countdown is repeated a total of eight times, after which it stops automatically.
dored is turned off, the countdown
dime

- Pressing (D) while an auto-repeat countdown is in progress pauses the current press (B) to rese

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.


## Progress Beeper

When the progress beeper is turned on, the watch uses beeps to signal countdown progress as described below.
Shor bir ar the countdown, the watch emits four short beeps at the top of each countdown minute

- The watch emits a short beep for each of the last watch emits four short beeps
- 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.


## To configure the countdown timer



1. While the countdown start time is on the display in the 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-21) to display it.

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


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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 | 9.79 | Use (D) (+) and (B) ( - ) to change the setting. |
| Auto-repeat |  | Press (D) to toggle auto-repeat on ( displayed) and off ( $-\longrightarrow$ displayed) |
| Progress Beeper | Whitic | Press (D) to toggle the progress beeper on (ON) and off (DFF). |

- To specify a countdown start time of 24 hours, set $0: E C$

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.

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
- Press Countdown Timer Mode.
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


## Alarms

You can set up to three 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 two 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 three alarm screens numbered Fi. i and FL.E
for the one-time alarm, a snooze alarm screen indicated
by SNZ. The Hourly Time Signal screen is indicated

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.

To set an alarm time


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.

| (1) |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FLL 1 | fle |  |  |  |  |  |  |
| (1) 1 | (B) | (B) |  |  |  |  |  |

- To set a one-time alarm, display an alarm screen Fl. 1 or FLL $\Xi$. To set the snooze alarm, display the $\Xi \mathrm{N} \mathbf{Z}$. screen.
. After you select an alarm, hold down © 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 othe settings.

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

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

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

## Alarm Operation

The alarm tone sounds at the preset time for 10 seconds, regardless of the watch's current mode. In the case of the snooze alarm, the alarm operation is performed a otal of seven times, every five minutes, unt you urn alarm of (page E-27). Alarm and Hourly Time Signal operations are performed in accordance with the

- 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 operation.
Displaying the Timekeeping Mode setting screen (page E-7)
Displaying the $\Xi \mathrm{N} \mathbf{Z}$ setting screen (page E -24)


## To test the alarm

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

## To turn an alarm on and off



1. In the Alarm Mode, use (D) or (B) to select an alarm. - Turning on a alarm (fL i, fL E , or $\Xi \mathrm{NZ}$ ) displays the - Turning on a alarm (FL $1, \operatorname{FLE}$, or $\operatorname{SNZ}$ ) displays - In all modes the ams on indicator is shown for alarm that is currently turned on - The alarm on indicator flashes whin
sounding.

- The snooze indicator (sNz) flashes while the snooze is sounding and during the 5 -minute intervals between alarms.

To turn the Hourly Time Signal on and off


## Illumination



An LED (light-emitting diode) illuminates the face of the watch for easy reading in the dark. The watch's auto light switch turns on illumination automatically when you angle switch turns on illumination automatically when you angle
the watch towards your face. - The auto light switch must b
auto light switch on indicator) for it to operate - See "lllumination Precautions" (page E-39) for other important information about using illumination.
To illuminate the display manually
In any mode, press (L) to turn on illumination.

- The above operation turns on illumination regardless of the current auto light switch setting


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- You can use the procedure below to select either 1.5 seconds or 3 seconds as the illumination duration. When you press (L), illumination will remain on for about 1.5 seconds or 3 seconds, depending on the current illumination duration setting.


## To specify the illumination duration



1. In the Timekeeping Mode, hold down (A) until the seconds start to flash, which indicates the setting screen.
2. While the seconds are flashing, press (B) to toggle the setting between 1.5 seconds ( $\%$ ) and 3 seconds (賩).
3. Press (A) to exit the setting screen.

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.


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 any other activity that can result in accident or injury. Also take care that sudden - When you are wearing the watch, make sure that operation of its auto light switch is disabled 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 enable and disable auto light switch operation

In the Timekeeping Mode, hold down (B) for about three seconds to toggle the auto In the Timekeeping Mode, hold down (B) for about three seconds to toggle the a
light switch operation between enabled (auto light switch indicator display) and light switch operation between enabled (auto light

- The auto light switch indicator is on the display in all modes while auto light switch operation is enabled.
- To protect against running down the battery, auto light switch operation disables automatically approximately six hours after you enable it.


## 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 $A$ and $B$. The information shown in each graphic area depends on the current mode.


- The following table shows the information that appears in graphic areas $A$ and $B$.

| Mode | Graphic Area A | Graphic Area B |
| :--- | :--- | :--- |
| Timekeeping | Timekeeping Mode seconds <br> $(10$ s unit) | Timekeeping Mode seconds <br> (1s unit) |
| World Time | Timekeeping Mode seconds <br> $($ (10s unit) | Timekeeping Mode seconds <br> (1s unit) |
| Stopwatch | Stopwatch time seconds | Stopwatch time seconds (1s unit) |
| Countdown Timer | Countdown time seconds | Countdown time seconds (1s unit) |
| Alarm | No indication | No indication |

Flash Alert
When Flash Alert is turned on, the illumination flashes for
2. Press (C) eight times to display the Flash Alert setting screen
3. Press (D) to toggle Flash Alert on (5y fic displayed) and off ( $\cdot$... displayed)
4. Press (A) to exit the setting screen

- The Flash Alert setting you select with the above procedure is applied in all modes. -When Flash Alert is on, 5y fic appears on the timekeeping screen for about one second whenever you enter the Stopwatch, Countdown Timer, or Alarm Mode.
 the alarms, the Hourly Time Signal, the countdown alarm and stopwatch auto start

To turn Flash Alert on and off

1. In the Timekeeping Mode, hold down (A) for about two seconds until the current time flashes on the display.

## Button Operation Ton



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 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 (mute indicator not displayed) and off (mute indicator 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.


## 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.

## 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 The year can be set in the range of 2000
- The watch's built-in tull
-The watch's built-in full automatic calendar makes allowances for different month except after you have Once you set the date, there should be no reason to change


## 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 - 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 seconds are added or subtracted as necessay to keep UTC in sync with the Earth's h the Earth rotation


## Illumination Precautions

- 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.


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## 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 causes the auto light switch to operate when it is not needed,
which shortens battery life. If you want to wear the watch on which shortens battery life. If you want to wear the watch on - 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-30)), 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 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.
- Under certain conditions, illumination may not turn on until about one second afte 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 ligh switch, and does not indicate a problem with the watch.


## Specifications

Accuracy at normal temperature: $\pm 15$ seconds a month
Timekeeping: Hour, minutes, seconds, p.m. (P), year, 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 from among 29 zones); Daylight Saving Time (summer time)/Standard Time
World Time: 48 cities (29 time zones)
Other: Daylight Saving Time/Standard Time
Alarms: 3 multi-function* alarms (with 1 snooze alarm); Hourly Time Signal *Alarm type: Daily alarm, date alarm, 1-month alarm, monthly alarm
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

Stopwatch
Measuring unit: $1 / 100$ second
Measuring capacity: 23:59' $59.99^{\prime \prime}$
Measuring modes: Elapsed time, split time, two finishes
Illumination: LED (light-emitting diode); Selectable illumination duration;
Auto Light Switch

Other: Button operation tone on/off, Flash alert
Battery: One lithium battery (Type: CR2032)
Approximately 10 years on type CR2032 (10 seconds of alarm operation per day, one countdown timer operation with progress beeper per week, one stopwatch operation with auto start per week, 1.5 seconds of illumination per day)

City Code Table


| City Code | City | UTC Offset/I GMT Differential | Other major cities in same time zone |
| :---: | :---: | :---: | :---: |
| PPG | Pago Pago | -11 |  |
| HNL | Honolulu | -10 | Papeete |
| ANC | Anchorage | -9 | Nome |
| YVR | Vancouver |  |  |
| SFO | San Francisco | -8 | Las Vegas, Seattle/Tacoma, Dawson City |
| LAX | Los Angeles |  |  |
| DEN | Denver | -7 | El Paso, Edmonton |
| MEX | Mexico City | -6 | Winnipeg, Houston, Dallas/Fort Worth, |
| CHI | Chicago | -6 | New Orleans |
| MIA | Mew York | -5 | Montreal, Detroit, Boston, Panama City, Havana, Lima, Bogota |
| CCS* | Caracas | -4 | La Paz, Santiago, Port Of Spain |
| YYT | St. Johns | -3.5 |  |
| RIO | Rio De Janeiro | -3 | Sao Paulo, Buenos Aires, Brasilia, Montevideo |
| RAI | Praia | -1 |  |

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| $\begin{aligned} & \text { City } \\ & \text { Code } \end{aligned}$ | City | UTC Offset/ GMT Differential | Other major cities in same time zone |
| :---: | :---: | :---: | :---: |
| LIS | Lisbon | 0 | Dublin, Casablanca, Dakar, Abidjan |
| LON | London Barcelona | 0 |  |
| PAR | Paris |  |  |
| MIL | Milan | +1 | Amsterdam, Algiers, Hamburg, Frankfurt, Vienna, Stockholm, Madrid |
| ROM | Rome |  |  |
| BER | Berlin |  |  |
| ATH | Athens |  |  |
| JNB | Johannesburg |  |  |
| IST | Istanbul | +2 | Helsinki, Beirut, Damascus, Cape Town |
| CAI | Cairo |  |  |
| JRS | Jerusalem |  |  |
| MOW** | Moscow | +3 | Kuwait, Riyadh, Aden, Addis Ababa, Nairobi |
| JED | Jeddah |  | Kuwail, Riyadh, Aden, Addis Ababa, Nairobi |
| THR | Tehran | +3.5 | Shiraz |
| DXB | Dubai | +4 | Abu Dhabi, Muscat |


| City Code | City | UTC Offset/f | Other major cities in same time zone |
| :---: | :---: | :---: | :---: |
| KBL | Kabul | +4.5 |  |
| KHI | Karachi | +5 |  |
| MLE | Male |  |  |
| DEL | Delhi | +5.5 | Mumbai, Kolkata |
| DAC | Dhaka | +6 | Colombo |
| RGN | Yangon | +6.5 |  |
| BKK | Bangkok | +7 | Jakarta, Phnom Penh, Hanoi, Vientiane |
| SIN | Singapore |  |  |
| HKG | Hong Kong | +8 | Kuala Lumpur, Taipei, Manila, Perth, Ulaanbaatar |
| BJS | Beijing |  |  |
| SEL | Seoul | +9 | Pyongyang |
| ADL | Adelaide | +9.5 | Darwin |
| GUM | Guam | +10 | Melbourne, Rabaul |
| SYD | Sydney |  | Melbourne, Rabaul |
| NOU | Noumea | +11 | Port Vila |
| WLG | Wellington | +12 | Christchurch, Nadi, Nauru Island |

* As of December 2012, the official UTC offset for Caracas, Venezuela (CCS) has been changed from -4 to -4.5 , but this watch still uses an offset of -4 (the old offset) for CCS
** As of December 2012, the official UTC offset for Moscow, Russia (MOW) has been changed from +3 to +4 , but this watch still uses an offset of +3 (the old offset) for MOW Because of this, you should leave the summer time setting fisel) (which advances the time by one hour) for the MOW time.
- 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.

