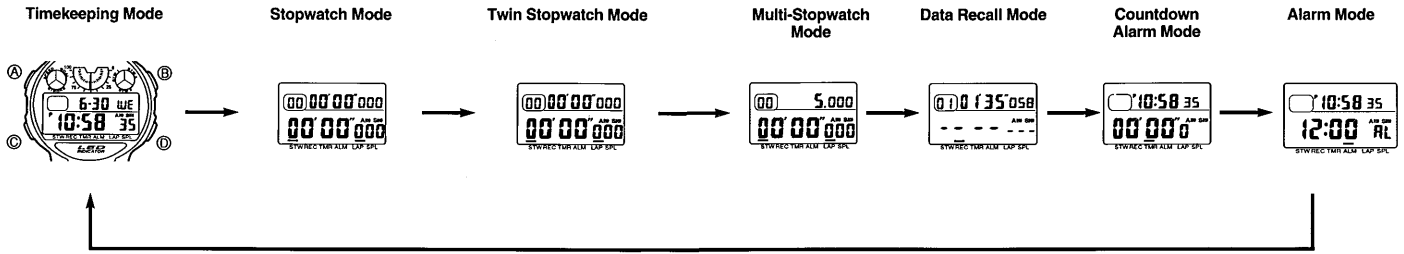


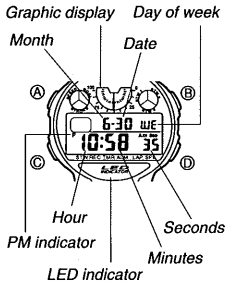
OPERATION CHART: MODULE QW-1016

GENERAL GUIDE

- Press **(A)** to change from mode to mode.
- Press **(B)** in any mode to illuminate the display.



TIMEKEEPING MODE



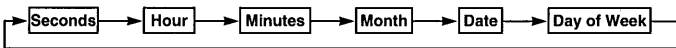
In addition to normal Timekeeping Mode functions, this watch also is equipped with an LED (light emitting diode) Indicator that flashes whenever an alarm sounds.

- In the Timekeeping Mode, the Graphic Display indicates the counting of seconds.
- In the Timekeeping Mode, press **(B)** to switch between the 12-hour and 24-hour formats.

To set the time and date

1. Hold down **(A)** while in the Timekeeping Mode until the seconds digits start to flash on the display. The seconds flash because they are selected.

2. Press **(B)** to change the selection in the following sequence.



3. While the seconds digits are selected (flashing), press **(B)** to reset the seconds to "00". If you press **(B)** while the seconds count is in the range of 30 to 59, the seconds are reset to "00" and 1 is added to the minutes. If the seconds count is in the range of 00 to 29, the minutes count is unchanged.
4. While any other digits (besides seconds) are selected (flashing), press **(B)** to increase the number. While the day of the week is selected, pressing **(B)** advances to the next day. Holding down **(B)** changes the current selection at high speed.
5. After you set the time and date, press **(A)** to return to the Timekeeping Mode.

- The watch does not make any allowance for leap years. Be sure to manually set February 29 (when one occurs) to the appropriate date.
- If you do not operate any button for a few minutes while a selection is flashing, the flashing stops and the watch goes back to the Timekeeping Mode automatically.

About the LED Indicator

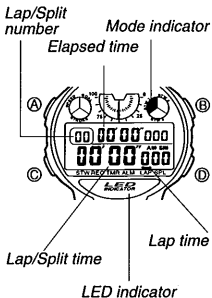
The LED (light emitting diode) indicator of this watch flashes whenever an alarm (daily alarm, countdown alarm) is sounding, and when various signals are sounded in the stopwatch and timer modes. For details of each of these operations, see the applicable section of this manual. Use the following procedure whenever you want to test the operation of the LED Indicator.

1. While in the Timekeeping Mode, press **(A)** and **(B)** at the same time, and the watch will beep. This indicates that the watch is in the LED Indicator test mode.
2. When the seconds count of the current time reaches "00" the LED Indicator will flash with each of the first 15 seconds of the new minute.
- The pattern of the LED Indicator changes with each second, and it flashes more quickly as the seconds count approaches the 15-second point.
3. The watch stays in the LED Indicator test mode (which means that the LED Indicator flashes during the first 15 seconds of each subsequent minute) until you press any other button.

Important!

The LED Indicator operation consumes power. Leaving the watch in the LED Indicator test mode for long periods will shorten the life of the battery. Be sure to press a button to exit the test mode after you test LED Indicator operation.

STOPWATCH MODE



The Stopwatch Mode measures elapsed time, lap times, and split times. It also includes 9 lap/split times memories, plus a host of other useful functions. Time is measured with 1/1000 of a second accuracy.

- You can use the lap time function to time how long it takes to complete a specific portion (such as a single lap) of a race.
- You can use split time function to time how long it takes to get from the start to a specific point in a race.

Notes

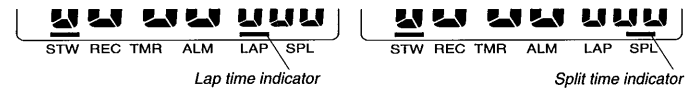
- In addition to the standard Stopwatch Mode, this watch also include a Twin Stopwatch Mode and a Multi-Stopwatch Mode. For details on these modes, see the corresponding sections of this manual.
- Whenever the time being measured in the Stopwatch Mode becomes greater than 59 minutes 59 seconds, the display automatically switches from minutes, seconds, and 1/1000 of a second (00'00'000) to hours, minutes and seconds (0:00 00).

To measure elapsed time

1. Press **(B)** to start the stopwatch.
2. Press **(B)** to stop the stopwatch.
- You can resume the measurement operation by pressing **(B)** again.
3. Press **(A)** to clear the stopwatch to all zeros.

To select lap time or split time operation

In the Stopwatch Mode, press **(A)** to switch between the lap time and split time. The current setting is shown on the display by an indicator.



To measure lap times or split times

1. Select lap time or split time operation.
2. Press **(B)** to start the stopwatch.
3. At the end of the 1st lap (or split) to display the time for the lap (or split) in the lower display. After seven seconds, the lower display changes to show the timing of the next lap (or Split).
4. Repeat step 3 for subsequent lap (or split). The times for up to 9 laps/splits are retained in memory. Each time you start timing of a new lap (or split), the Lap/Split Number increase by 1.
- Pressing **(A)** while a measurement is in progress in the Stopwatch Mode switches between lap time and split time operation.
5. Press **(B)** to stop the stopwatch.
6. Press **(A)** to clear the stopwatch to all zeros.

To time the first 10 finishers

1. Select split time.
2. Press **(B)** at the start of the race to start the stopwatch.
3. At the end of the race, press **(B)** each time one of the first 9 racers crosses the finish line.
4. Press **(B)** when the 10th racer crosses the finish line.
5. Press **(A)** to clear the stopwatch to all zeros.
- You can view the 10 recorded finish times in the Data Recall Mode.

About time memories

The Stopwatch Mode includes nine lap/split time memories, plus one stop time memory. If you store more than nine times, the watch automatically deletes the oldest time stored in memory to make room for the newest time. This means that a set of 10 measurements always includes the nine newest measurements plus the final time that is on the display when stopwatch operation is terminated. If you measure 20 laps, for example, the lap/split indicator will show "20" but only the times for laps 12 through 20 will be saved in memory. You can view memory contents using the Data Recall Mode.

About the Auto-Start function

With the Auto-Start function, the watch performs a 10-second countdown. When the countdown reaches zero, stopwatch operation starts automatically. During the final five seconds of the countdown, a beeper sounds and the LED Indicator flashes with each second.

The Auto-Start function can be used with the Stopwatch Mode, the Twin Stopwatch Mode, and the Multi-Stopwatch Mode.

To use the Auto-Start function

1. In the Stopwatch, Twin, or Multi-Stopwatch Mode, press **(B)**. The upper display shows a count of 10 seconds, which is the starting value of the Auto-Start countdown.
2. Press **(B)** to start the countdown. When the countdown reaches zero, the watch emits a long beep and the stopwatch begins operation.
- To stop the Auto-Start Countdown and return to the stopwatch display (all zeros), press **(A)**.

About the Previous Lap Time Countdown function

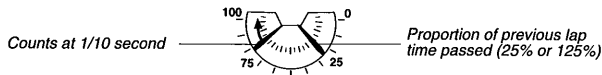
With this function, the watch compares the time of the current lap with that of the previous lap. When the current lap time is within 10 seconds of the previous lap time, the watch beeps and the LED Indicator flashes with each second. This function can be used with the Stopwatch Mode, the Twin Stopwatch Mode, and the Multi-Stopwatch Mode.

- Note that you can use the Previous Lap Time Countdown function only when the previous lap time is greater than 20 seconds.
- This function can be used with either lap times or split times.

About the graphic display

The graphic display shows the following information to compare the current lap time with the previous lap time (when the previous lap time is greater than 20 seconds). This function can be used with the Stopwatch Mode, the Twin Stopwatch Mode, and the Multi-Stopwatch Mode.

- The graphic display indicates from 0 to 200% of the previous lap time.
- This function can be used with either lap times or split times.



TWIN STOPWATCH MODE

The Twin Stopwatch Mode uses the upper and lower displays to simultaneously show lap times and split times.



Note

The Twin Stopwatch Mode, the normal Stopwatch Mode and Multi-Stopwatch Mode are synchronized with each other. This means that if you change (by pressing C) from Twin Stopwatch Mode to the Multi-Stopwatch Mode or the Stopwatch Mode, you will find the same timing operation being performed.

In the Twin Stopwatch Mode, the time in the lower display is synchronized with the other stopwatch modes.

Remember that selecting between lap time operation and split time operation is performed in the Stopwatch Mode.

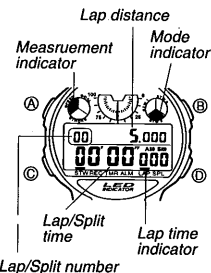
Applications

- Simultaneous timing of two vehicles during motor sports events.
- Timing of 25-meter laps for two swimmers.

To use the Twin Stopwatch

- Press D to start both the upper and lower stopwatches.
- At the end of the first lap (split), press A to record the time in the upper display or B to record it in the lower display. When you do, the lap (or split) time remains on the display for about seven seconds. Next, the display changes to show the timing of the next lap (or split).
- Repeat step 2 for subsequent laps (or splits). Times recorded with the lower display are stored into memory. You can store up to nine times in memory, and each time you record a new time the Lap/Split Number increases by 1.
- Press D to stop the stopwatch.
- Press B to clear the stopwatch to all zeros.

MULTI-STOPWATCH MODE



The Multi-Stopwatch Mode lets you measure speed, estimated finish time, and strokes, as you measure lap or split times with the normal Stopwatch Mode.

Note

The Multi-Stopwatch Mode, the normal Stopwatch Mode and Twin Stopwatch Mode are synchronized with each other. This means that if you change (by pressing C) from Multi-Stopwatch Mode to the Stopwatch Mode or the Twin Stopwatch Mode, you will find the same timing operation being performed. Remember that selecting between lap time operation and split time operation is performed in the Stopwatch Mode.

About Multi-Stopwatch Mode measurements

You can select from among the following types of measurements in the Multi-Stopwatch Mode.

Speed Measurement

Once you set a lap distance, this mode calculates your speed (in kilometers or miles per hour). This function is useful in the timing of motor sports events.

Estimated Finish Time

With this type of measurement you set the lap distance and the total distance, and the watch provides you with an estimated finish time throughout the race. In a marathon, for example, you could measure your progress every five kilometers to get an estimated finish time.

Stroke Calculation

With this type of measurement, you time how long it takes to perform five repetitions of any activity. The watch then calculates how many repetitions can be performed in one minute. This can be used in a bicycle race to calculate the number of strokes per minute. You could also calculate your pulse by timing how long it takes for five heartbeats.

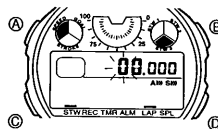
To select a Multi-Stopwatch Mode measurement

While in the Multi-Stopwatch Mode, press A to change the currently selected measurement, as illustrated in the following table.

Stopwatch	Measurement Indicator	Lap Distance	Total Distance
Speed Measurement		Required	Not required
Estimated Finish Time		Required	Required
Stroke Calculation		Not required	Not required

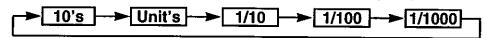
- You can change the Multi-Stopwatch Mode from one measurement type to another while a measurement is being performed.

To set the lap distance



- Note that the following explanation applies to kilometers and miles, and no adjustment is necessary to switch between the two distance units.

- Hold down A while in the Multi-Stopwatch Mode until the 10's digit of the distance display starts to flash. The 10's digit flashes because it is selected.
- Press C to change the selection in the following sequence.



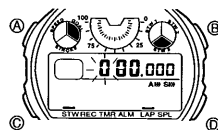
- Press D to increase the selected digit. Holding down D increases the selection at high speed.

- The maximum lap distance is 99.999 (kilometers or miles).

- After you set the lap distance, press A to display the total distance setting screen.

- Press A again to return to the Multi-Stopwatch Mode display. Or you can set the total distance as described from step 3 in the procedure below.

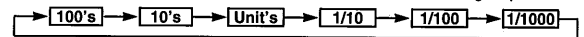
To set the total distance



- Note that the following explanation applies to kilometers and miles, and no adjustment is necessary to switch between the two distance units.

- Hold down A while in the Multi-Stopwatch Mode until the 10's digit of the distance display starts to flash. The 10's digit flashes because it is selected.
- Press A again to select the 100's digit.

- Press C to change the selection in the following sequence.



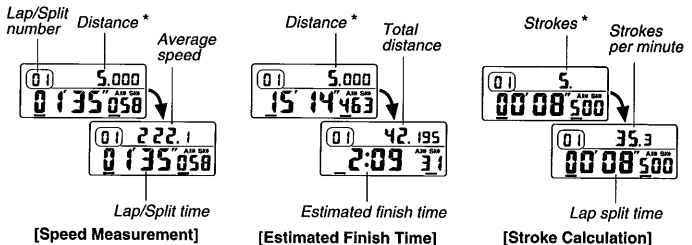
- Press D to increase the selected digit. Holding down D increases the selection at high speed.

- The maximum total distance is 999.999 (kilometers or miles).

- After you set the lap distance, press A to return to the Multi-Stopwatch Mode display.

To use the Multi-Stopwatch

- Select Speed Measurement, Estimated Finish Time, or Stroke Calculation.
- Press D to start the stopwatch.
- Press B at the end of the first lap (or split) to display the time for the lap (or split) in the lower display. The contents of the upper display depends on the measurement type you selected in step 1.



* Distance = preset lap distance × number of laps
Number of strokes = 5 × number of laps

- A few seconds after the above data appears, the display changes so that the upper display shows the total elapsed time, while the lower display shows the split/lap time.

- Repeat step 3 for subsequent laps (or splits). The times for up to 9 laps/splits are retained in memory. Each time you start timing of a new lap/split, the Lap/Split Number increases by 1.
- Press D to stop the stopwatch.
- Press B to clear the stopwatch to all zeros.

Working Range

Lap/Split time: Up to 9 hours, 59 minutes, 59.999 seconds (automatically restarts from 0 hours 00 minutes 00.000 seconds)

Lap/Split number: 00 to 99 (automatically restarts from 00)

Average speed: 000.0 to 999.9 (kph or mph)

Estimated Finish Time: Up to 9 hours, 59 minutes, 59 seconds

Number of Strokes: 0 to 999.9 /minute

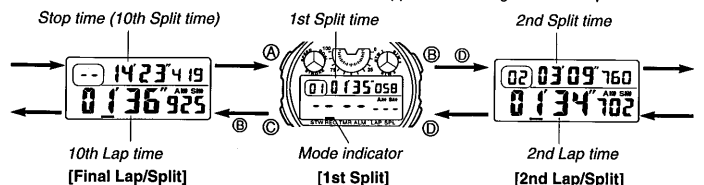
DATA RECALL MODE

The Data Recall Mode lets you recall the lap/split times stored in memory.

To recall lap/split times

- Whenever you enter the Data Recall Mode, the display shows the time for the oldest lap/split (the lap/split time with the lowest lap number).
- Press C to scroll forward through the lap/split times and B to scroll back.

Example: When the stopwatch measurement is stopped after timing of the 9th lap.



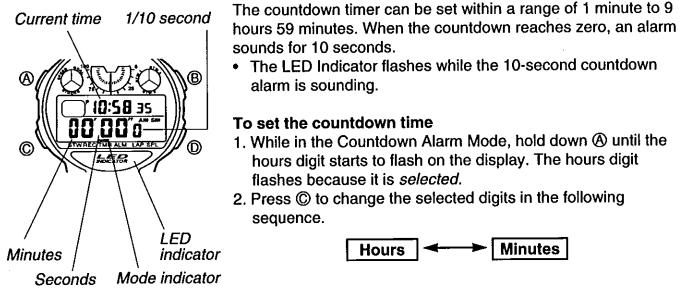
- As you recall times, press (A) to switch between minutes, seconds, 1/1000 second (00'00"000) and hours, minutes, seconds (0:00 00) depending on the type of data that is stored.

About calculation errors

The following conditions cause errors in internal calculations of the stopwatch. In such cases, "-" will be shown on the display in place of numeric data when you recall lap/split times or use the stopwatch for time measurement.

- When the measured lap time exceeds 9 hours, 59 minutes, 59.999 seconds.
- When the result of a speed is greater than 999.9 (kph or mph).

COUNTDOWN ALARM MODE

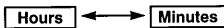


The countdown timer can be set within a range of 1 minute to 9 hours 59 minutes. When the countdown reaches zero, an alarm sounds for 10 seconds.

- The LED indicator flashes while the 10-second countdown alarm is sounding.

To set the countdown time

- While in the Countdown Alarm Mode, hold down (A) until the hours digit starts to flash on the display. The hours digit flashes because it is selected.
- Press (C) to change the selected digits in the following sequence.



- Press (D) to increase the selected digits. Holding down (D) increases the selection at high speed.
- After you set the countdown time, press (A) to return to the Countdown Alarm Mode.
- If you set the countdown time for greater than 59 minutes, the display switches to show hours, minutes and seconds (0:00 00). When the countdown value on the display becomes less than 1 hour, the display switches back to showing minutes, seconds, and tenth of a second (00'00"0).

To use the countdown timer

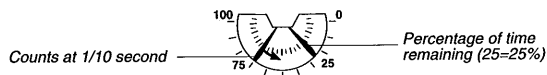
- Press (D) while in the Countdown Alarm Mode to start the countdown timer.
- Press (D) again to stop the countdown timer.
- You can continue countdown timer operation by pressing (D).
- Stop the timer and then press (A) to reset the countdown timer to its starting value.
- The countdown time is automatically reset to its starting value after the alarm stops.

About the countdown alarm

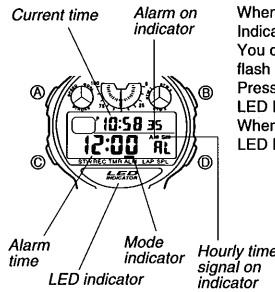
- When the countdown value reaches zero, an alarm sounds for 10 seconds or until you press (A). The watch also emits the following signals during the countdown.
- When there is less than 10 minutes remaining in the countdown, the watch beeps and the LED flashes once at the start of each new minute.
 - When there is less than one minute remaining in the countdown, the watch beeps and the LED flashes once at the start of each new 10-second segment.
 - When there is less than 10 seconds remaining in the countdown, the watch beeps and the LED flashes with each second.

About the graphic display

The graphic display operates in accordance with the timer you use, as illustrated below.

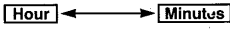


ALARM MODE



When the Daily Alarm is on, the alarm sounds and the LED Indicator flashes for 20 seconds at the preset time each day. You can also set a *silent alarm* that causes the LED Indicator to flash without any alarm sound. Press any button to stop operation of the alarm and flashing LED Indicator once they start. When the Hourly Time Signal is on, the watch beeps and the LED Indicator flashes every hour on the hour.

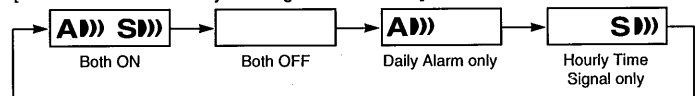
To set the alarm time

- Hold down (A) while in the Alarm Mode until the hour digits start to flash on the display. The hour digits flash because they are selected. At this time the Daily Alarm is switched on automatically.
 - Press (C) to change the selection in the following sequence.
- 
- Press (D) to increase the selected digits. Holding down (D) increases the selection at high speed.
 - The format (12-hour and 24-hour) of the alarm time matches the format you select for normal timekeeping.
 - When setting the alarm time using the 12-hour format, take care to set the time correctly as morning (am) or afternoon (pm).
 - After you set the alarm time, press (A) to return to the Alarm Mode.

To switch the Daily Alarm and Hourly Time Signal on and off

Press (B) while in the Alarm Mode to change the status of the Daily Alarm and Hourly Time Signal in the following sequence.

[Alarm ON indicator/Hourly Time Signal ON indicator]



To use the silent alarm function

Set the alarm and then switch on only the Hourly Time Signal.

To switch off the silent alarm

Set alarm time to any hour and "00" minutes and switch on the Hourly Time Signal.

To test the alarm

Hold down (D) while in the Alarm Mode to sound the alarm.