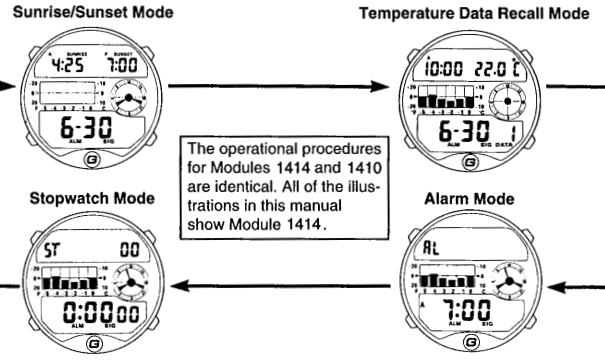
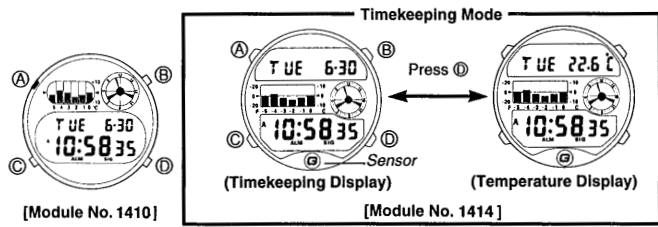
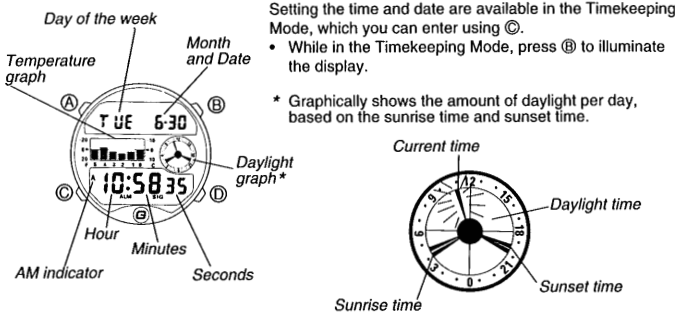


## 2. OPERATION CHART: MODULE QW-1414 GENERAL GUIDE

- Press **(C)** to change from mode to mode.
- After you perform an operation in any mode, pressing **(C)** returns to the Timekeeping Mode.



### TIMEKEEPING FUNCTIONS



Setting the time and date are available in the Timekeeping Mode, which you can enter using **(C)**.

- While in the Timekeeping Mode, press **(B)** to illuminate the display.

\* Graphically shows the amount of daylight per day, based on the sunrise time and sunset time.

#### To set the time and date

1. Press **(C)** to display the timekeeping display (with the month and date).
2. Press **(A)** and the seconds digits flash on the display because they are selected.
3. Press **(C)** to change the selection in the following sequence.
 

Seconds → Hour → Minutes → Year

Day of Week ← Date ← Month
4. While the seconds digits are selected (flashing), press **(C)** to reset the seconds to "00". If you press **(C)** while the seconds count is in the range of 30 to 59, it is 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.
5. While any other digits (besides seconds), are selected (flashing), press **(C)** to increase the number. While the day of the week is selected, pressing **(C)** advances to the next day. Holding down **(C)** changes the current selection at high speed.
- While the seconds, hour, or minutes are selected, press **(B)** to switch between the 12-hour and 24-hour formats.
6. After you set the time and date, press **(A)** twice to return to the timekeeping display.
- The date can be set within the range of January 1, 1990 to December 31, 2029.
- 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 display automatically.

#### Important

- After you change a setting in the above procedure, the watch needs a bit of time to calculate certain information. During this calculation, the patterns in the graphic displays move at high speed. Wait until these display stop moving before you try to input any further data.
- If you set the current time forward one hour for daylight saving time (summer time), be sure to also increase the setting for your difference from Greenwich Mean Time (see "To set location data"). Of course, you should remember to adjust the other way (by decreasing the difference) when you go back to standard time.

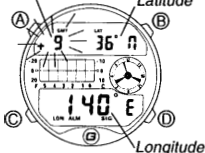
### SUNRISE/SUNSET FUNCTIONS

These functions tell you the time of sunrises and sunsets for specific dates. It also displays a Daylight Graph based on sunrise and sunset data. Note that you must correctly set the required data in the following procedures for the Sunrise/Sunset Functions to operate correctly. Use the Time Zone Chart to find the applicable data for your location.

#### To set the location data

1. Use **(C)** to enter the Timekeeping Mode.
2. Press **(C)** to display the Timekeeping Display.
3. Press **(A)** and the seconds digits flash on the display.
4. Press **(A)** again to display the location data. The GMT differential data is flashing because it is selected.
5. Press **(C)** to change the selection in the following sequence.
 

GMT differential ← Longitude/Latitude



6. While the GMT differential is selected (flashing), press **(C)** to increase the value or **(B)** to decrease it. Holding down either button changes the current selection at high speed.
7. While Longitude/Latitude is selected (GMT differential is cleared from the display), press **(C)** to change the value of longitude or **(B)** to change the value of latitude. Holding down either button changes the corresponding setting at high speed.



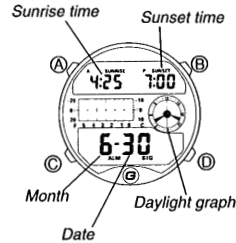
8. After you set the location data, press **(A)** to return to the Timekeeping Display.

#### Important

After you change a setting in the above procedure, the watch needs a bit of time to calculate certain information. During this calculation, the patterns in the graphic display move at high speed. Wait until these display stop moving before you try to input any further data.

#### To display the sunrise and sunset times for a specific date

1. Use **(C)** to enter the Sunrise/Sunset Mode.
- When you enter the Sunrise/Sunset Mode from another mode, the display shows the sunrise/sunset data for today's date (as set in the Timekeeping Mode).
2. Press **(C)** to advance the date or **(B)** to set it back. Holding down either button changes the date at high speed.
3. When the date you want is displayed, you will have to wait for about 15 seconds as the watch performs its internal calculation before displaying the sunrise/sunset time for the date.



#### Notes

- If you think that the watch is not showing the correct information, check the settings of the watch in the following order: year, GMT differential, longitude, latitude, east/west, north/south.
- Sunrise and sunset times are for sea level locations. Actual times may differ slightly depending on your elevation.
- Sunrise and sunset times are correct within a range of 5 minutes at latitudes less than 50, and 10 minutes at latitudes greater than 50.
- You can set the GMT differential in units of one hour. In areas where the actual GMT differential is closer to the half hour, the actual sunrise and sunset will be 30 minutes later. **Example:** In an area where the actual GMT differential is +9.5, set the GMT differential as +9. In this case, the actual sunrise and sunset will occur 30 minutes later than the times calculated by this watch. If the watch shows a sunrise of 6:35 am, the actual sunrise will be at 7:05. If the watch shows a sunset of 6:05 pm, the actual sunset will be at 6:35.

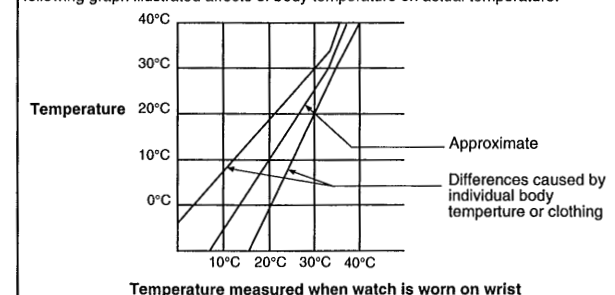
### THERMOMETER FUNCTIONS

A built-in temperature sensor measures temperature and shows the measured value on the display. The readout from the temperature sensor can also be switched between Celsius (°C) and Fahrenheit (°F). The thermometer can be calibrated to correct for errors.

#### 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 off all moisture from the case. It takes approximately 20 to 30 minutes for the case of the watch to reach the actual surrounding temperature.

Accurate temperature measurements cannot be achieved while you are wearing the watch. The following graph illustrated affects of body temperature on actual temperature.



### About Temperature Measurement

Temperature measurements are usually taken automatically every two minutes, regardless of what mode the watch is in. You can see the measured values in the Timekeeping Mode's temperature display.

### Understanding the temperature display

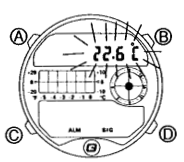
Current temperature \*2



Temperature graph \*1

- Use **C** to enter the Timekeeping Mode.
  - Press **D** to display the temperature display.
    - Whenever you switch to the temperature display, the current temperature is measured and displayed.
- \* 1 The temperature graph uses the current temperature (the far right element of the graph) as zero, and shows the changes in temperature for the past five hours.
- \* 2 The display shows "-. - °C (or °F)" if a measured value falls outside the range of -20°C to 60°C (-4°F to 140°F). The normal display will return as soon as the temperature returns within the allowable range.

### Switching between Celsius and Fahrenheit



- While in the Timekeeping Mode, press **D** to display the temperature display.
- Press **A** and the current temperature digits flash.
- Press **C** to select either Celsius "C" or Fahrenheit "F".
- After you select the Celsius or Fahrenheit, press **A** to return to the temperature display.

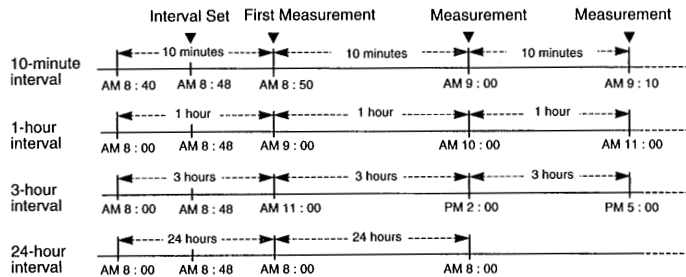
### About temperature memory...

In addition to the normal temperature measurements taken every two minutes, you can also set the watch to automatically measure temperature at regular intervals (10 minutes, 1 hour, 3 hours, 24 hours) and store the measurements into memory. The memory hold up to 30 sets of measurement data each set consisting of the date and time of the measurement, along with temperature. Once memory is full, the data is updated by recording the newest measurement and deleting the oldest one. You cannot manually delete data.

### Note

The following graph shows when temperature measurements would start for each available interval when you change the interval setting.

Example: When you change the interval setting at 8:48 am.

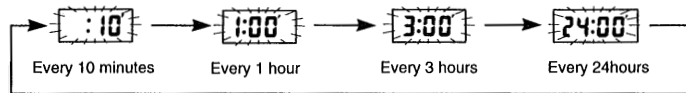


- For the 10-minute interval in the above example, the watch starts the first interval from 8:40, and the first measurement is taken at 8:50.
- For the 1-hour, 3-hour, and 24-hour intervals in the above example, the watch starts the first interval from 8:00, and the first measurement is taken respectively 1 hour, 3 hours, or 24 hours after this start point.

### To select the temperature measurement interval

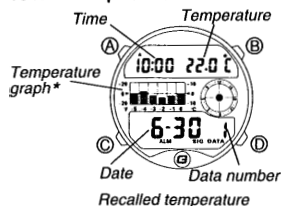


- Use **C** to enter the Temperature Data Recall Mode.
- Press **A** and the temperature measurement interval starts to flash on the display.
- Press **D** to change the interval in the following sequence.



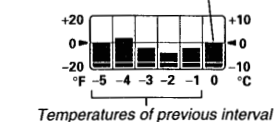
- When the interval you want is flashing on the display, press **A** to return to the Temperature Data Recall Mode.

### To recall temperature data



- Use **C** to enter the Temperature Data Recall Mode.
- The first data to appear.
- Press **D** to scroll forward through the stored data items or **C** to scroll backward.
- Holding down either button scrolls through the data items at high speed.

\* The temperature graph compares the currently displayed temperature (indicated as 0 on the far right of the graph) with the five previous measurements. Each segment on the graph represents 2°C (4°F).



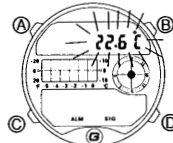
### Calibrating the Temperature Measurement

The temperature sensor of this watch is calibrated at the factory before shipment and further adjustment is normally not required. If noticeable error is found in the temperature readings produced by the watch, you can adjust it to correct the error.

### Important

- Incorrectly calibrating the temperature measurement of this watch can result in incorrect readings. Carefully read the following before doing anything.
- Compare the readings produced by the watch with those of another reliable, accurate thermometer.
  - If calibration is required, remove the watch from your wrist and wait for 20 or 30 minutes to give the temperature of the watch time to stabilize.
  - Perform the temperature calibration before procedure as quickly as possible to avoid the temperature of the watch being affected by your body temperature.
  - You can also preform temperature calibration underwater, if the water temperature is stable.

### To calibrate the temperature

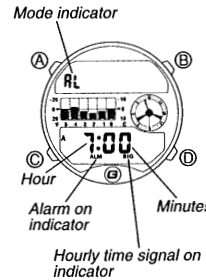


- Use **C** to enter the Timekeeping Mode and press **D** to display the temperature display.
- Press **A** and the current temperature digits flash.
- Each press of **D** increase the displayed temperature by 0.1°C, and pressing the **C** decrease it by 0.1°C.
  - If you have selected Fahrenheit as your unit of measurement, the above operations change the reading by 0.2°F.
  - You can calibrate the temperature within a range of -9.9°C to +9.9°C (-18.0°F to +18.0°F).
- Press **B** and **D** at the same time to rest the temperature calibration to the factory setting.
- After calibrating the temperature, press **A** to return to the temperature display.

## ALARM FUNCTIONS

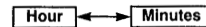
When the Daily Alarm is switched on, the alarm sounds for 20 seconds at the preset time each day. Press any button to stop the alarm after it starts to sound.

When the Hourly Time Signal is switched on, the watch beeps every hour on the hour.



### To set the alarm time

- Use **C** to enter the Alarm Mode.
- Press **A** and the hour digits flash on the display 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** changes 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 you using the 12-hour format, take care of set the time correctly as morning (A) or afternoon (P).
- 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

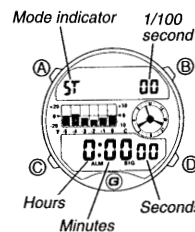
Press **D** while in the Alarm Mode to change the status of the daily alarm and hourly time signal in the following sequence.

### Alarm on indicator / hourly time signal on indicator



## STOPWATCH FUNCTIONS

The Stopwatch Functions let you record elapsed time, split times, and two finishes. The range of the stopwatch is 23 hours, 59 minutes, 59.99 seconds. Stopwatch functions are available in the Stopwatch Mode, which you can enter using **C**.



- Elapsed time measurement**  
Start → Stop → Re-start → Stop → Clear
- Split time measurement**  
Start → Split → Split release → Stop → Clear
- Split time and 1st-2nd place times**  
Start → Split → Stop → Split release → Clear  
First runner finishes. Second runner finishes. Record time of second runner. Record time of first runner.

# TIME ZONE CHART

## NORTH AMERICA

NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
1.	PAGO PAGO	-11	171°W	14°N
2.	HONOLULU	-10	158°W	21°N
3.	ANCHORAGE	-9	150°W	61°N
4.	NOME	-9	165°W	65°N
5.	LOS ANGELES	-8	118°W	34°N
6.	SAN FRANCISCO	-8	122°W	38°N
7.	LAS VEGAS	-8	115°W	36°N
8.	VANCOUVER	-8	123°W	49°N
9.	SEATTLE	-8	122°W	48°N
10.	DENVER	-7	105°W	40°N
11.	EL PASO	-7	106°W	32°N
12.	EDMONTON	-7	114°W	54°N
13.	CHICAGO	-6	88°W	42°N
14.	HOUSTON	-6	95°W	30°N

NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
15.	DALLAS	-6	97°W	33°N
16.	NEW ORLEANS	-6	90°W	30°N
17.	WINNIPEG	-6	97°W	50°N
18.	MEXICO CITY	-6	99°W	19°N
19.	NEW YORK	-5	74°W	41°N
20.	MONTREAL	-5	74°W	45°N
21.	DETROIT	-5	83°W	42°N
22.	MIAMI	-5	80°W	26°N
23.	BOSTON	-5	71°W	42°N

Add 1 hour to the difference time if DST (Daylight Saving Time) is used. (EX. if difference of standard time is +2, that of DST is +3.)

## AFRICA AND MIDDLE EAST

NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
1.	BEIRUT	+2	35°E	34°N
2.	DAMASCUS	+2	36°E	33°N
3.	CAPE TOWN	+2	18°E	34°S
4.	KUWAIT	+3	48°E	29°N
5.	RIYADH	+3	47°E	25°N
6.	JEDDAH	+3	39°E	21°N
7.	ADEN	+3	45°E	13°N
8.	ADDIS ABABA	+3	39°E	9°N
9.	NAIROBI	+3	37°E	1°S
10.	DUBAI	+4	55°E	25°N
11.	ABU DHABI	+4	54°E	24°N
12.	MUSCAT	+4	58°E	23°N
13.	KARACHI	+5	67°E	25°N
14.	PRAIA	-1	23°W	15°N

NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
15.	DAKAR	+0	17°W	15°N
16.	ABIDJAN	+0	4°W	5°N

Add 1 hour to the difference time if DST (Daylight Saving Time) is used. (EX. if difference of standard time is +2, that of DST is +3.)

## CENTRAL AND SOUTH AMERICA

NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
1.	PANAMA CITY	-5	80°W	9°N
2.	LIMA	-5	77°W	12°S
3.	BOGOTA	-5	74°W	5°N
4.	CARACAS	-4	67°W	10°N
5.	LA PAZ	-4	68°W	17°S
6.	SANTIAGO	-4	71°W	33°S
7.	PORT OF SPAIN	-4	61°W	11°N
8.	RIO DE JANEIRO	-3	43°W	23°S
9.	SÃO PAULO	-3	47°W	24°S
10.	BRASILIA	-3	48°W	16°S
11.	BUENOS AIRES	-3	58°W	35°S
12.	MONTEVIDEO	-3	56°W	35°S

NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
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Add 1 hour to the difference time if DST (Daylight Saving Time) is used. (EX. if difference of standard time is +2, that of DST is +3.)

## ASIA AND SOUTH PACIFIC

NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
1.	DHAKA	+6	90°E	24°N
2.	BANGKOK	+7	100°E	14°N
3.	JAKARTA	+7	107°E	6°S
4.	PHNOM-PENH	+7	105°E	12°N
5.	HANOI	+7	106°E	21°N
6.	VIENTIANE	+7	103°E	18°N
7.	HONG KONG	+8	114°E	22°N
8.	SINGAPORE	+8	104°E	1°N
9.	KUALA LUMPUR	+8	102°E	3°N
10.	BEIJING	+8	116°E	40°N
11.	TAIPEI	+8	122°E	25°N
12.	MANILA	+8	121°E	15°N
13.	PERTH	+8	116°E	32°N
14.	ULAN BATOR	+8	107°E	48°N
15.	TOKYO	+9	140°E	36°N

NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
16.	SEOUL	+9	127°E	38°N
17.	PYONGYANG	+9	126°E	39°N
18.	SYDNEY	+10	151°E	34°S
19.	MELBOURNE	+10	145°E	38°S
20.	GUAM	+10	145°E	13°N
21.	NOUMEA	+11	166°E	22°S
22.	PORT VILA	+11	168°E	18°S
23.	WELLINGTON	+12	175°E	41°S
24.	CHRISTCHURCH	+12	173°E	43°S
25.	SUVA	+12	178°E	18°S
26.	NAURU ISLAND	+12	166°E	1°S
27.	PAPEETE	-10	150°W	18°S

Add 1 hour to the difference time if DST (Daylight Saving Time) is used. (EX. if difference of standard time is +2, that of DST is +3.)

## EUROPE

NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
1.	AZORES	-1	25°W	38°N
2.	LONDON	+0	0°E	51°N
3.	DUBLIN	+0	6°W	53°N
4.	CASABLANCA	+0	8°W	34°N
5.	LISBON	+1	9°W	39°N
6.	PARIS	+1	2°E	49°N
7.	MILAN	+1	9°E	45°N
8.	ROME	+1	12°E	42°N
9.	MADRID	+1	4°W	40°N
10.	AMSTERDAM	+1	5°E	52°N
11.	HAMBURG	+1	10°E	54°N
12.	FRANKFURT	+1	9°E	50°N
13.	VIENNA	+1	16°E	48°N
14.	STOCKHOLM	+1	18°E	59°N

NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
15.	ATHENS	+2	24°E	38°N
16.	HELSINKI	+2	25°E	60°N
17.	ISTANBUL	+2	29°E	41°N

Add 1 hour to the difference time if DST (Daylight Saving Time) is used. (EX. if difference of standard time is +2, that of DST is +3.)