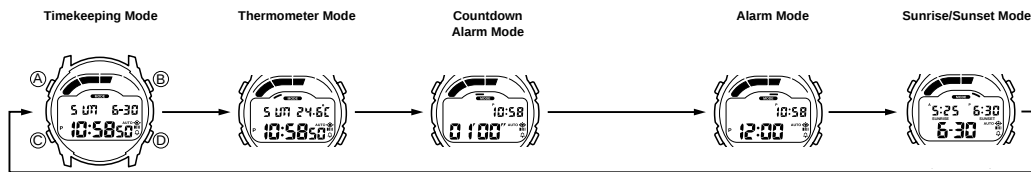


2. OPERATION CHART : QW-1646

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.
- In any mode (except when making settings) press **(B)** to illuminate the display for about two seconds.



TIMEKEEPING MODE

To set the time and date

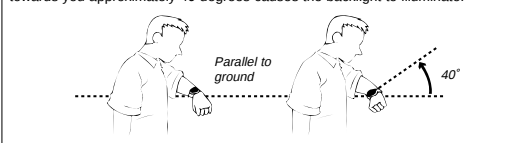
- Hold down **(A)** while in the Timekeeping Mode until the seconds digits flash on the display because they are selected.
 - Press **(C)** to change the selection in the following sequence:
 - Seconds → Hour → Minutes → 12/24-Hour Format
 - Day of week → Day → Month → Year
 - While the seconds digits are selected (flashing), press **(D)** to reset the seconds to 00. If you press **(D)** 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.
 - While any other digits (beside seconds) are selected (flashing), press **(D)** to increase the number or **(B)** to decrease it. While the day of the week is selected, press **(D)** to advance to the next day and **(B)** to move back. While the 12/24-hour format setting is selected, press **(D)** to toggle it between 12 and 24.
- Except for when adjusting the seconds or setting the 12/24-hour format, holding down a button changes the current selection at high speed.
 - When the 12-hour format is selected, the indicator **A** appears on the display to indicate "A.M." times or indicator **P** appears on the display to indicate "P.M." times. Selecting the 24-hour format causes the indicator **24** to appear on the display.
 - After you set the time and date, press **(A)** to return to the Timekeeping Mode.
 - The date can be set within the range of January 1, 1995 to December 31, 2039.
 - 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 BACKLIGHT

About the Auto Backlight Function

When the auto backlight function is turned on, the backlight automatically turns on for two seconds under the conditions described below. Avoid wearing the watch on the inside of your wrist. Doing so causes the auto backlight to operate when not needed, which shortens battery life.

Moving the watch to a position that is parallel to the ground and then tilting it towards you approximately 40 degrees causes the backlight to illuminate.



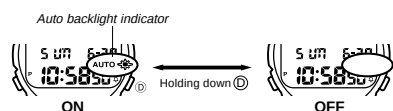
- The backlight may not illuminate if the face of the watch is more than 15 degrees off parallel to the left or right. Make sure that the back of your hand is parallel to the ground.



- Static electricity or magnetic force can interfere with proper operation of the auto backlight function. If the auto backlight does not illuminate, try moving the watch back to the starting position (parallel with the ground) and then tilt it back toward 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 the backlight may not light until about one second or less after turn the face of the watch towards you. This does not necessarily indicate malfunction of the backlight.

To switch the auto backlight function on and off

In the Timekeeping Mode, hold down **(D)** for one or two seconds to turn the auto backlight function on and off.



- The auto backlight indicator is shown on the display in all modes while the auto backlight function is on.
- In order to protect against running down the battery, the auto backlight function is automatically turned off approximately three hours after you turn it on. Repeat the above procedure to turn the auto backlight function back on if you want.
- Pressing **(B)** at any time illuminates the display for about two seconds, regardless of the auto backlight's on/off setting.

Caution

- The backlight of this watch employs an electro-luminescent (EL) light, which loses its illuminating power after very long term use.
- Frequent use of the backlight shortens the battery life.
- The watch emits an audible sound whenever the display is illuminated. This is because the EL light vibrates slightly when lit. It does not indicate malfunction of the watch.

Warning!

- Never try to read your watch when mountain climbing or hiking in areas that are dark or in areas with poor footing. Doing so is dangerous and can result in serious personal injury.
- Never try to read your watch when running on a roadside or in any other location where there might be vehicular or pedestrian traffic. Doing so is dangerous and can result in serious personal injury.
- Never try to read your watch when riding on a bicycle or when operating a motorcycle or any other motor vehicle. Doing so is dangerous and can result in a traffic accident and serious personal injury.
- When you are wearing the watch, make sure that its auto backlight function is turned off before riding on a bicycle or operating a motorcycle or any other motor vehicle. Sudden and unintended operation of the auto backlight can create a distraction, which can result in a traffic accident and serious personal injury.

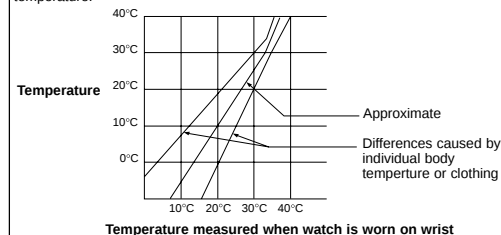
THERMOMETER MODE

A built-in temperature sensor measures temperature and shows the measured value on the display. The thermometer can be calibrated to correct for errors.

Important

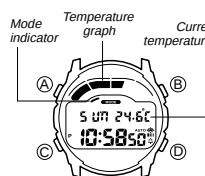
Temperature measurements are affected by your body temperature (while you are wearing the watch), direct sunlight, and moisture. To achieve a more accurate temperature measurement, remove the watch from your wrist, place it in a well ventilated location out of direct sunlight, and wipe off all moisture 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 illustrates affects of body temperature on actual temperature.



About Temperature Measurement

- A temperature graph which is automatically updated every five minutes, is shown on the display in all modes (except when making settings). Measured temperature values can be viewed in the Thermometer Mode only.
- Pressing **(D)** while in the Thermometer Mode performs temperature measurement and causes the measured value to appear on the display.



* The display shows "— — °C" if a measured value falls outside the range of -20°C to 60°C. The normal display will return as soon as the temperature returns within the allowable range.

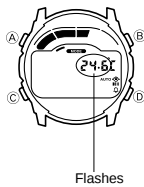
Calibrating the Temperature Measurement

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

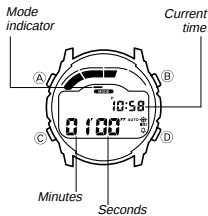
- Incorrectly calibrating the temperature measurement of this watch can result in incorrect readings. Carefully read the following before doing anything.
- Compare the readings produced by the watch with those of another reliable, accurate thermometer.
- If calibration is required, remove the watch from 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



1. Holding down (A) while in the Thermometer Mode and the current temperature digits flash.
2. Each press of (D) increase the displayed temperature by 0.1°C, and pressing the (B) decrease it by 0.1°C.
- You can calibrate the temperature within a range of -9.9°C to +9.9°C.
- Press (B) and (D) at the same time to reset the temperature calibration to the factory setting.
3. After calibrating the temperature, press (A) to return to the Thermometer Mode.
- 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 Thermometer Mode automatically.

COUNTDOWN ALARM MODE



The countdown timer can be set within a range of 1 minute to 60 minutes. When the countdown reaches zero, an alarm sounds for 10 seconds or until you press any button.

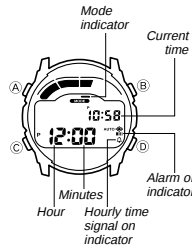
To set the countdown time

1. Hold down (A) while in the Countdown Alarm Mode. The minutes digits flash on the display because they are selected.
2. Press (D) to increase the minutes digits or (B) to decrease them. Holding down either button changes the setting at high speed.
3. After you set the countdown alarm time, press (A) to return to the Countdown Alarm Mode.
- 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 Countdown Alarm Mode automatically.

To use the countdown time

1. Press (D) while in the Countdown Alarm Mode to start the countdown timer.
2. Press (D) again to stop the countdown timer.
- You can resume countdown timer operation by pressing (D).
3. Stop the timer and then press (A) to reset the countdown time to its starting value.

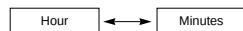
ALARM MODE



When the Daily Alarm is turned 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 turned on, the watch beeps every hour on the hour.

To set the alarm time

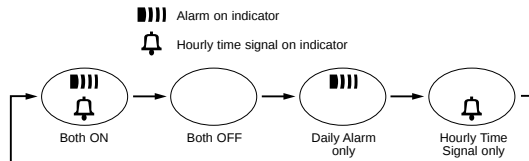
1. Hold down (A) while in the Alarm Mode. The hour digits flash on the display because they are selected. At this time the Daily Alarm is turned on automatically.
2. Press (C) to change the selection in the following sequence.



3. Press (D) to increase the selected digits or (B) to decrease them. Holding down either button 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 using the 12-hour format, take care to set the time correctly as morning (A) or afternoon (P).
4. After you set the alarm time, press (A) to return to the Alarm Mode.
- 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 Alarm Mode automatically.

To switch the daily alarm and hourly time signal on and off

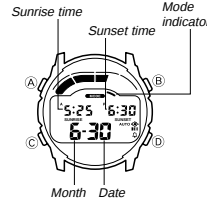
Press (D) while in the Alarm Mode to change the status of the daily alarm and hourly time signal in the following sequence.



To test the alarm

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

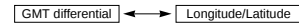
SUNRISE/SUNSET MODE



Be sure to set the current time and your current location before trying to use Sunrise/Sunset functions. The Sunrise/Sunset functions tell you the time of sunrise and sunsets for specific dates.

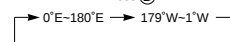
To set the location date

- See the Time Zone Chart at the back of this manual.
- 1. Holding down (A) while in the Sunrise/Sunset Mode causes the GMT differential data to start flashing because it is selected.
- 2. Press (C) to change the selection in the following sequence.



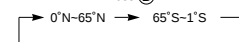
< Longitude >

Press (D)



< Latitude >

Press (B)



5. After you set the location data, press (A) to return to the Sunrise/Sunset Mode.
- 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 Sunrise/Sunset Mode automatically.
- You can set a latitude within the range of 65° south to 65° north.
- For the Longitude, always set 0° as 0°E, and 180° as 180°E.
- Be sure to advance the GMT differential by one hour when summer time (daylight saving time) is applicable.

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. Wait until these patterns stop before trying to perform the next procedure.

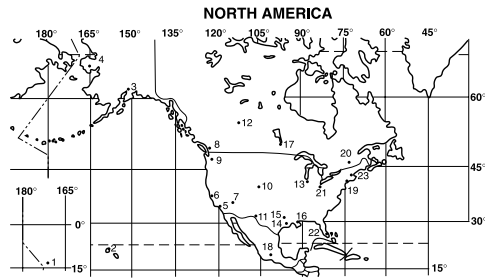
To display the sunrise and sunset times for a specific date

1. Use (C) to enter the Sunrise/Sunset Mode.
- When you enter the Sunrise/Sunset Mode from other mode, the display shows the sunrise/sunset data for today's data (as set in the Timekeeping Mode).
2. Press (D) to advance the date. Holding down (D) returns to the current date.
3. When the date you want is displayed, you will have to wait for about 15 seconds as the watch performs its internal calculations 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 with a range of 5 minutes at latitudes less than 50, and 10 minutes at latitudes greater than 50.

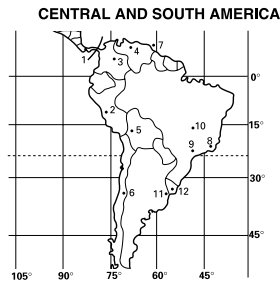
TIME ZONE CHART



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

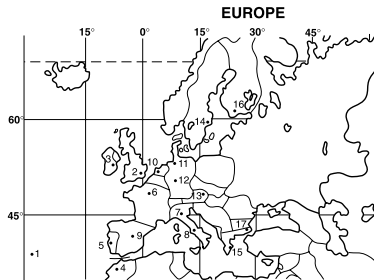
Add 1 hour to the difference time if DST (Daylight Saving Time) is used. (EX. if difference of standard time is +2, that of DST is +3.)



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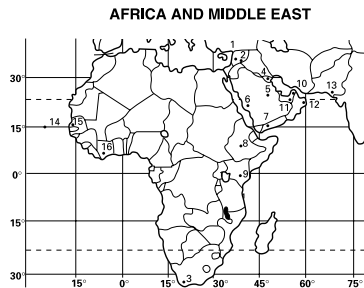
Add 1 hour to the difference time if DST (Daylight Saving Time) is used. (EX. if difference of standard time is +2, that of DST is +3.)



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	+0	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

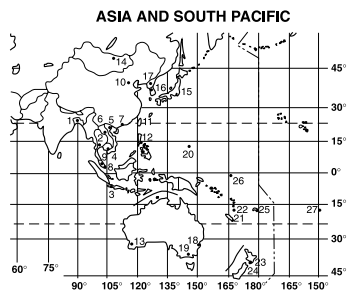
Add 1 hour to the difference time if DST (Daylight Saving Time) is used. (EX. if difference of standard time is +2, that of DST is +3.)



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.)



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.)